

**Animal Behavior (Bio 169): Course Information****Spring 2023****Instructor:**

Dr. Ron Coleman	Pronouns	he, him, his
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**Course Location & Times:**

Lec:	#34241	Mon, Wed 1:00 to 1:50 pm	Room 212 SQU
Lab:	#34242	Mon 2:00 to 5:00pm	Room 212 SQU

Each student must attend both the lectures and the laboratory. All lectures and laboratories are taught "in person".

**Office hours:**

Ron Coleman    Wed 2:00 - 5:00pm or setup an appointment by email or by Zoom.

**Catalog description:**

Bio 169. Animal Behavior. 3 units. Introduction to the fascinating world of why animals do the things that they do. Focus is on the evolution and function of animal behavior through understanding the costs and benefits of different behavior including foraging, fighting and reproduction. Lecture two hours; laboratory three hours.

Fee course.

Prerequisite(s): Bio 1 and Bio 2, or permission of the Instructor

Term Typically Offered: Spring only

Offered by Department of Biological Sciences. College of Natural Sciences and Mathematics

**Course description:**

This course is an introduction to the study of behavior. In particular, we will be focusing on the modern approach to the study of behavior, known as behavioral ecology, which emphasizes costs, benefits and tradeoffs to explore why animals do the incredible things that they do. The laboratory will teach you the techniques used by behavioral ecologists and focus on experimental design and analysis of data.

**Learning Outcomes:**

Upon successful completion of this course, a student will be able to do the following:

Conceptual

- Describe the diversity of animal behavior as it pertains to feeding, fighting, reproduction, etc.
- Explain the fundamental roles of natural and sexual selection in shaping animal behavior
- Describe and apply the cost/benefit, optimality and game theoretic approaches to the study of behavior

Practical

- Observe, describe and analyze behavior
- Read and use the primary scientific literature
- Design and implement behavioral experiments based on sound statistical designs
- Research and compose a well thought-out term paper on a topic related to animal behavior, making use of the primary literature
- Create and present an effective PowerPoint presentation

- Design, implement and present an individual project in animal behavior

### Attendance and Deadlines:

I expect you to attend every lecture and lab; you miss class at your own risk. Anything I say is fair game for exams, whether it is in the text or not. Some things I say will definitely not be in the text, and some may contradict the text. In the latter case, what I say is taken to be the correct answer. If there is a difference between what I say and what is in the text or what you have learned elsewhere, **please ask about** it in lecture or after class and we will discuss the differences.

My goal as a lecturer is to guide and assist you in learning about this material. I cannot do that if you are not in class or if you do not tell me what you do not understand.

If you miss a class, it is your responsibility to get the notes from another student, not from me. I DO NOT hand out lecture notes, nor do I post them to the web.

Deadlines are strictly adhered to. It is not fair to students that complete work on time for other students to have extra time to do the same work. Plan ahead and schedule your time. Most importantly, do not leave things to the last minute; you do not need that kind of stress!

If you get sick, due to the Corona virus, or something else, let me know and we will make alternate arrangements.

**REALLY IMPORTANT NOTE: Online materials remain the property of the instructor (i.e., me). You may not distribute them and you certainly may not post them to a different online site. Doing so constitutes theft and you will be prosecuted as such.**

### Email and CANVAS policies:

This course uses both CANVAS and email extensively. As a Sac State student, you are responsible for regularly checking your Saclink email account (i.e., daily). Failing to do an assignment because you did not check your Saclink email account is your problem. Furthermore, when corresponding with me about this course, you **MUST** use your Saclink email account, not a gmail, yahoo or any other email account. This is an official University policy (IRT-0102, January 1, 2010).

Handouts for labs and the term paper, and some videos are found on CANVAS. Anything on the CANVAS site is “testable”, i.e., the material may appear on an exam.

I do not use the scheduling features of CANVAS to keep you informed of what you have done and what you still need to do. Keeping track of your assignments is your responsibility. This is not high school. Similarly, I do not use the grade book facilities of CANVAS. This is deliberate.

Do NOT send me messages within the CANVAS system. I will not read them. Send any email messages to me directly at [rcoleman@csus.edu](mailto:rcoleman@csus.edu)

When sending me an email, think carefully about the subject line and the names of any file attachments. I get hundreds of emails a day. Sending me a filename such as “assignment.docx” is a waste of time. File names should have your name included in the filename. For example, a far better filename would be “Coleman\_Ronald\_Bio169\_termpaper\_proposal.docx” You need to get into the habit of using descriptive filenames and subject lines in all your work and correspondence.

Equally importantly, be sure that every document that you send me has your name inside of it, not just in the filename, and also includes the current date, i.e., the date you are submitting it. Do NOT put the date it is due; I already know that. You need to put the current date in the document so that you and I can keep track of which version you are sending me (see below under Writing and Revision). So for instance, when you first submit your term paper proposal, it might have a date of February 10, 2023. When you revise it a week later, the date would now say February 17, 2023, making it easy for you and I to see which version is the newer version.

NEVER, EVER “share” files with me or send me links to documents. I will not read “shared” files. You must **attach** any documents/spreadsheets/pdfs to an email and send that to me. The reason for this is that certain shared documents and linked documents can change after you send them. Furthermore, “shared files” go away after a period of time. I cannot grade material that can potentially be changed after you submit it, or it disappears.

It is also critical that you not send unrelated things in the same email, e.g., “Here is assignment 2 and my term paper proposal.” Send each one as a separate email. This makes it much easier for me (and you ) to track what is done and what needs to be done. By the way, this is excellent advice for all email correspondence: one email, one topic. Sending multiple, unrelated things in a single email pretty much guarantees that one of them will be ignored or misplaced.

**Field Trip:**

There is a mandatory field trip (Saturday, Feb 11, 2023) to Ano Nuevo to see the elephant seals. If you cannot go this Sunday, you are required to go another day and to show me the receipt. Because Ano Nuevo is about 3 hours away, this is an all-day trip.

**Textbook:**

Krebs, J.R. & N.B. Davies. 2012. An Introduction to Behavioural Ecology. Fourth Edition. Blackwell, London. **REQUIRED.**

Dawkins, R. 1976. The Selfish Gene. Second Edition. Oxford. ISBN 0-19-286092-5 **REQUIRED.**

**Exams:**

There will be two midterms and a final for the lecture portion of the course. There will be a midterm and a final in the lab, both held during lab time. Midterms are all short-answer and essay questions. I do not believe in multiple choice questions and do not use them. You **MUST** write your answers in sentences. Answers not written in sentences are worth ZERO.

Exams will be comprehensive, i.e., anything in the whole course up to that point in time is fair game. My previous students comment on two aspects of my exams: I am a hard grader and I am a fair grader. You can expect long exams that test your knowledge, but they will be exams without tricks. My goal is to have you tell me what you know and understand. You will have to work very quickly.

I do not provide separate “study guides” for exams. This course is an introduction to the subject of Animal Behavior; the lectures and labs are your study guides to that material.

**Writing and Revision:**

Good writing is the absolute most important skill you can develop in college. It is one of the key questions employers ask about potential employees: employers can teach you how to use a new machine or a new type of analysis, but they are not interested in teaching you how to write. Writing skill often determines your success in your career. The bad news is that most college students are not good writers. I suspect this is because of the proliferation of multiple-choice exams, and the lack of opportunities to practice extensive writing or to receive critical feedback. The good news is that you can easily learn to be a better writer. I will help you with this. You will do a lot of writing in this course, during exams, for the term paper and for the lab assignments. I do not accept poor writing. If you turn in an assignment which is poorly written or with spelling or grammatical errors, I will return it to you to revise. I will keep sending it back to you until it is correct. I do not expect you to be perfect at first, but I do expect you to learn from your mistakes.

**Grading:**

**This course is worth 3 units.**

The number of points/questions on a particular exam is irrelevant to the exam's worth -- it is merely a tool for grading. What matters are the following percentages.

Your lecture grade will be calculated according to the following scheme:

Midterm I	20
Midterm II	25
Final Exam	35
Term Paper	20
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	100%

Your lab grade will be calculated according to the following scheme:

Midterm	20
Final	20

Project	30
Other Labs	30
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	100%

**NOTE: You must retain in some orderly fashion all assignments and graded materials until after the end of the semester (i.e., June). You may be asked to produce these at the end of the semester. Failure to produce an assignment will result in a grade of 0 for that assignment.**

Your course grade will be a combination of your lecture and lab grades as follows:

Lecture	2/3	Lab	1/3
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Your letter grade will be calculated according to the following table:

A = 93 to 100%	C+ = 77 to 79.9%
A- = 90 to 92.9%	C = 73 to 76.9%
B+ = 87 to 89.9%	C- = 70 to 72.9%
B = 84 to 86.9%	D+ = 67 to 69.9%
B- = 80 to 83.9%	D = 60 to 66.9%
	F = 0 to 59.9%

I generally do not adjust or curve or scale grades; If you want an "A", work for it and make it happen!

I do not hesitate to correct any errors I make in grading (e.g., incorrect addition or if I missed grading an answer), but keep in mind that I am looking for clear, succinct answers, not answers that sort-of-show-you-possibly-might-know-what-you-mean. If you feel that your answer deserves a better grade, please return it to me promptly.

I do not use "extra credit" assignments.

It is your responsibility to be aware of and understand University policies about drop dates, etc. For example, if you simply stop coming to class, you will be assigned an "F" for the course and you will not be allowed to "drop" the course after the drop deadline.

### Health and Safety:

Read and sign the separate Safety sheets.

### Honor Code:

Please do not cheat. Besides the fact that we will be forced to take strong measures if we catch you -- including recommending your dismissal from the class and from the university -- I will be profoundly disappointed in you. Most importantly, **cheating indicates that you are a failure as a human being.**

Do not even think about doing any of the following:

- giving or receiving information from another student during an examination
- using unauthorized sources for answers during an exam such as writing answers on hats, clothing or limbs
- illegally obtaining the questions before an exam
- altering the answers on an already-graded exam
- any and all forms of plagiarism
- destruction and/or confiscation of school and/or personal property

### Services to Students with Disability (SSWD):

Sacramento State is committed to ensuring an accessible learning environment where course or instructional content are usable by all students and faculty. If you believe that you require disability-related academic adjustments for this class (including pregnancy-related disabilities), please immediately contact Services for Students with Disabilities (SSWD) to discuss eligibility. A current accommodation letter from SSWD is required before any modifications, above and beyond what is otherwise available for all other students in this class, will be provided. Please be advised that disability-related academic adjustments are not retroactive. SSWD is located on the first floor of Lassen Hall 1008. Phone is 916-278-6955 and email is [sswd@csus.edu](mailto:sswd@csus.edu). For a complete listing of services and current business hours visit

<https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities/>

**Student Health and Counseling Services:**

Your physical and mental health are important to your success as a college student. Student Health and Counseling Services (SHCS) in The WELL offers medical, counseling, and wellness services to help you get and stay healthy during your time at Sac State. SHCS offers: Primary Care medical services, including sexual and reproductive healthcare, transgender care, and immunizations; urgent care for acute illness, injuries, and urgent counseling needs; pharmacy for prescriptions and over-the-counter products; mental health counseling, including individual sessions, group counseling, support groups, mindfulness training, and peer counseling; athletic training for sports injury rehabilitation; wellness services, including nutrition counseling, peer-led health education and wellness workshops, and free safer sex supplies; violence and sexual assault support services. Most services are covered by the Health Services fee and available at no additional cost.

**Crisis Assistance & Resource Education Support (CARES):**

If you are experiencing challenges with food, housing, financial or other unique circumstances that are impacting your education, help is just a phone call or email away. The CARES office provides case management support for any enrolled student

**Additional Resources and Sources of Information:**

Links to campus policies and resources related to student academics may be found on the [www.csus.edu](http://www.csus.edu) website

- Policies:           Grading policies,  
                          Sacramento State Academic calendar,  
                          Hornet Honor Code
- Resources:       Student Rights Responsibilities  
                          Martin Luther King Center  
                          Multicultural Center  
                          Dreamer Resource Center  
                          Student Success Center  
                          Academic Advising  
                          PARC  
                          Reading & Writing Center

**Feedback:**

I appreciate your feedback on this course. It is most useful to tell me things while the course is in progress, rather than waiting until the end of the course. If there is something that needs changing, LET ME KNOW and I will see what I can do about it. This course is a collaboration between you and me. I really enjoy teaching this class and I want you to have a great time as well.

**Schedule:**

The schedule of classes is subject to change.

Week	Date	Lecture	Lab	Ch
1	Jan 23 Jan 25	Intro to Animal Behavior Causation, Formative vs Summative, Editing Marks	Survey of skills; Examine journal articles from <i>Behavioral Ecology</i> , basic spreadsheet	1
2	Jan 30 Feb 1	Natural Selection Natural Selection, Group Selection	Experimental Design (regression, t-test, Chi- square); “Jewel of the Rift” video and exercise, graphing	
3	Feb 6 Feb 8	Directions of Selection Economic Decision Making	Elephant Seal video; Discuss “Decision Rules..” paper	
	Feb 11 (Sat)	Field trip to Ano Nuevo to see Elephant Seals		

4	Feb 13 Feb 15	Foraging Foraging	Marginal Value Theorem experiment	
5	Feb 20 Feb 22	<b>Feb 20: Lecture Midterm 1</b> Prey choice <b>Feb 22: Term paper proposal due</b>	Microsoft Excel for Constructing Graphs	
6	Feb 27 Mar 1	Risk; Optimality Predator vs Prey	Using PowerPoint; Discuss individual projects	
7	Mar 6 Mar 8	CSUS Student Res. Comp. Evolutionary Arms Races Competing for Resources	Sample PowerPoint Presentations; Excel Data Analysis tools (t-test, regression)	
8	Mar 13 Mar 15	Optimal Group Size Fighting & Assessment; <b>Mar 15: Term paper Part I due</b>	<b>Mar 13: Lab Midterm</b>	
9	Mar 20 Mar 22	<i>Spring Break – no classes this week</i>		
10	Mar 27 Mar 29	Fighting & Assessment	Game Theory	
11	Apr 3 Apr 5	<b>Apr 3: Lecture Midterm 2</b> Game Theory		
12	Apr 10 Apr 12	<b>Apr 12: Term paper due;</b> Sexual Selection		
13	Apr 17 Apr 19	Sexual Selection Sexual Selection	Project presentations	
14	Apr 24 Apr 26	<b>Apr 24: Project due</b> Parental Care	Project presentations	
15	May 1 May 3	Alternative Strategies Altruism & Cooperation	Project presentations	
16	May 8 May 10	TBA	May 8: <b>Lab Final</b> and Poster Session	
17	May 15	<b>Final Exam 12:45</b>		

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