

BIOE109: Evolution

Session 2, Summer 2024

July 29th - August 30th

Instructor

Allyson Sawkins

Email: asawkins@ucsc.edu

Office Hours (via zoom): Fridays 1-3pm, or by appointment

Teaching Assistants

Cerise Chen

Email: chen263@ucsc.edu

Office Hours (via zoom): TBD

Evan Ho

Email: evho@ucsc.edu

Office Hours (via zoom): TBD

Overview

In this course we will examine the history and mechanisms of evolutionary change. Topics include molecular evolution, natural and sexual selection, adaptation, speciation, biogeography, and macroevolution among others. Students should leave the course being able to:

1. Realize the potential and limits of evolutionary change
2. Understand the processes that lead to evolutionary change
3. Describe the major approaches to studying evolution and their pros and cons
4. Understand how evolution leads to biodiversity
5. Relate evolutionary biology to pertinent issues
6. Critically read and evaluate primary literature
7. Gain experience with the scientific method and posing/testing hypotheses
8. Develop general critical thinking and communication skills

Detailed learning objectives will be provided at the start of every new topic.

Prerequisites

Satisfaction of the Entry Level Writing and Composition requirements; [BIOL 20A](#), [BIOE 20B](#), [BIOE 20C](#), and [BIOL 105](#).

Course Website (<https://canvas.ucsc.edu/>)

If you are enrolled in the course, you should automatically be added to the Canvas course site. If you cannot access the course site, please email your instructor.

Optional Texts

Evolution: making sense of life by Carl Zimmer and Douglas J. Emlen

Recommended Texts

Origin of species by Charles Darwin (.pdf available online, link on Canvas)

The Selfish Gene by Richard Dawkins (.pdf available online, link on Canvas)

Course Structure

Online lectures:

Lectures are organized into modules, which are composed of several 15-20 minute video lectures (see schedule on Canvas). You are responsible for viewing these lectures during the week they are assigned. Video lectures will remain available throughout the course however; you **must complete each module** before proceeding to the next module in the series. After you have completed a module, there will be a short exit quiz to help you test yourself on the lecture material and unlock the next module in the series. **Your grade on exit quizzes will not count towards your final grade and you can retake these quizzes as many times as you like.**

Reading assignments:

Readings for each week will include one or two scientific papers from the primary literature (required) and supplemental chapters from one of two textbooks (optional). Primary literature readings and textbook chapters will be available on the course website. **The primary literature readings will be discussed during discussion forums and will be included in the quizzes.**

Weekly Lecture Quizzes (in lieu of a midterm):

There will be three graded quizzes at the end of weeks 1-3 instead of having a single midterm. These are separate from, and in addition to, the module quizzes that unlock the next module in the series. These will be conducted through Canvas. **They are open note/book but are NOT group assignments.** Be sure to carefully read the instructions when taking these quizzes. **There are no make-ups and the lowest quiz will not be dropped.** Unless otherwise specified, quizzes for the week will be closed by SUNDAY night at 11:59pm.

Discussion Boards and Quizzes (in lieu of discussion sections):

These will not be like traditional sections that you may be familiar with, but rather will take place in the form of asynchronous discussion forums (meaning that you can contribute to them over time) on Canvas and discussion quizzes at the end of the week. These forums will be composed of guiding questions relating to the recent lectures or readings from the primary literature. Discussion quizzes will test your understanding of the material from the reading and forums. Participation in these discussion forums will be counted towards your participation grade while the quiz results will count towards your overall discussion grade. Be sure to carefully read the instructions when taking these quizzes. **There are no make-ups and the lowest quiz will not be dropped.** Unless otherwise specified, quizzes for the week will be closed by SUNDAY night at 11:59pm.

Final Exam:

Exams for this course will be taken through Canvas like the online quizzes. We will not be using ProctorU. You will have a 48 hour window to take the exam. The window begins at midnight PST on August 29th and ends at 11:59pm PST on August 30th. You can take the final any time you want during that time. **Once you have started the exam, you will have 2.5 hours to complete it (exceptions for DRC students).** Like all the quizzes, you only have one attempt, so do not start the exam until you are in a place with a stable internet connection and you are ready to complete the exam in the allotted time. If you exit the exam before finishing, it will automatically be submitted and you will not be able to update, change, or finish the questions. If you do not start the exam before 9:30pm August 30th, you will be losing time! The exam will end at 11:59pm on August 30th regardless of when you started it.

This is not a group assignment! You are expected to complete the exam on your own. The exam will consist of short answer and multiple choice questions. There will be a couple of extra credit questions as well. There is a study guide available with topics to focus your preparation. You will be allowed a calculator and scratch paper, however, the final exam is not open book. You will NOT be allowed to search the web, look at your notes or book.

Grading

Assessment:	Percent of Grade:
Weekly Quizzes	30%
Final Exam	35%
Discussion Boards/Quizzes	30%
Course Participation	5%

Late Policy: 50% points deducted per day after grading

Academic integrity

Cheating will not be tolerated. Cheating during tests will result in a zero and may result in a failing grade in the class. By enrolling in the university, students are automatically agreeing to abide by policies, including those on academic misconduct. Academic integrity and scholarship are core values that should guide our conduct and decisions as members of the UCSC community. Plagiarism and cheating contradict these values, and so are very serious academic offenses. Penalties can include a failing grade in an assignment or in the course, or suspension or expulsion from the university. Students are expected to familiarize themselves with and follow citation practices (<https://politics.ucsc.edu/undergraduate/citation.html>) and the university's Rules of Conduct regarding student conduct and discipline: <https://deanofstudents.ucsc.edu/student-conduct/student-handbook/index.html>.

DRC accommodations

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me via email, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu.

Important Deadlines

Add/Swap: Thursday, August 1

Drop: Monday, August 5 (tuition reversed)

Request "W" Grade: Sunday, August 18 (no tuition reversal)

Change Grade Option: Sunday, August 25

Grades Due: Thursday, September 5

A Note on Canvas: Like most websites, Canvas tracks your activity, including which pages you've visited, when, and for how long. All submissions (assignments, quizzes, discussion forums) are time-stamped, which means that your instructor can see exactly when you turn your work in.

IMPORTANT NOTE: As this is a summer session class, everything is VERY fast-paced. We fit everything required of the normal 10-week offering into half the time! Therefore, to succeed in this class will require sustained effort and participation. Cramming interspersed with periods of inactivity will not work!