

Evolutionary Biology



What is this course about?

Welcome to BI 380! I am committed to the success of all students in this course, and I look forward to the learning and growing that we will do together this term. The goals of this course are to teach the fundamentals of evolutionary biology, from micro to macro scales.

Course Logistics

Course ID: BI 380, Evolution

Lecture: Mondays, Wednesdays, and Fridays from 1:00-1:50pm in McKenzie 129

Discussion: Tuesdays from 2:00-2:50pm, 3:00-3:50pm, or 4:00-4:50pm in Volcanology 101

Instructor: Sabrina Mostoufi, Ph.D. (she/her)

Contact: smostouf@uoregon.edu (Please include your name and the course ID in the subject line of emails)

Office Hours

When & Where: Tuesdays 9:00-10:00am and Thursdays 4:00-5:00pm in Onyx 275

What: Questions about assignments and grading, clarification on course topics, etc.

Scheduling: My in-person office hours are open to all, but I am also available for in-person or virtual appointment outside of the scheduled times. To schedule an appointment with me, please send me an email with two or three 30-minute timeslots that work for you and your preference for in-person or over zoom.

Graduate Employees

Discussion Instructors: Rachael Giersch (rgiersch@uoregon.edu) and Carlos Gonzalez (cgonzal7@uoregon.edu)

Office hours: Mondays 11:30am-12:30pm (Rachael) and Thursdays 11:00am-12:00pm (Carlos)

Class Schedule

Week	Date	Topics	Futuyma Reading	Assignment
1	April 3	Course details		
	April 5	History of evolution	1	
	April 7	Basics of genetic variation	2	Canvas Quiz 1
2	April 10	Genotypic and phenotypic variation	4	
	April 12	Intro to population genetics	5	
	April 14	Natural selection: adaptation	3	Canvas Quiz 2
3	April 17	Natural selection: pop gen		
	April 19	Mutation and migration	8	
	April 21	Genetic drift	7	Problem Set 1
4	April 24	Integration of evolutionary forces	1-8	
	April 26	Linkage and recombination	4,10	
	April 28	Review		Exam 1 available
5	May 1	Exam 1		
	May 3	Molecular evolution	5	Exam 1
	May 5	Phylogenetic inference	2	
6	May 8	Molecular systematics	2	Problem Set 2
	May 10	Quantitative genetics: classics	6	
	May 12	Quantitative gen: mapping disease alleles	6	Canvas Quiz 3
7	May 15	Levels of selection	3,12	
	May 17	Evolution and genetics of behavior	12	
	May 19	Sexual selection	10	Canvas Quiz 4
8	May 22	Species concepts	9	
	May 24	Models of speciation	9	
	May 26	Genetics of speciation	9	Problem Set 3
9	May 29	Memorial Day - No class		
	May 31	Species interactions	13	
	June 2	Diversity and Evolution of life	16,17	Canvas Quiz 5
10	June 5	Macro evolution	20	
	June 7	Human evolutionary history	21	
	June 9	Review		Exam 2 available
Finals	June 15	Exam 2		Exam 2

Discussion Schedule

Week	Date	Topics	Reading
1	April 4	Organization, Evolution education	Dunk <i>et al.</i> 2019
2	April 11	Genetic and phenotypic variation in pigeons	Domyan and Shapiro 2017
3	April 18	Women in population genetics	Dung <i>et al.</i> 2019
4	April 25	Evolutionary forces	Simulation Lab
5	May 2	Genetic variation and geography	Novembre <i>et al.</i> 2008
6	May 9	Molecular evolution	Dorus <i>et al.</i> 2004
7	May 16	Quantitative genetics	Colosimo <i>et al.</i> 2004
8	May 23	Speciation	Coyne and Orr 1989
9	May 30	Memorial day: no discussion laab	
10	June 6	Ethics in evolutionary biology	Kaplan and Fullerton 2022

Additional Course Information

Course Format and Assignments

This course will meet in-person for three 1-hour lectures per week on Mondays, Wednesdays, and Fridays in McKenzie 129. Lectures will introduce new course content, review content prior to exams, and provide time for students to complete take home exams.

Students will also register and meet for one of the three available discussion sections for 1 hour on Tuesdays in Volcanology 101. Discussion sections will consist of guided conversations about assigned readings from scientific and/or in-class activities related to lecture content. Students will be expected to have read the article(s) prior to their assigned discussion time and come to class prepared to take a short quiz and discuss the article with their classmates.

This course will have 2 exams which will be open book and take home. Other assignments include problem sets and quizzes, both of which will be available and submitted on Canvas.

Course Materials and Technical Requirements

Required text: Futuyuma, D.J. and M. Kirkpatrick. *Evolution*, 4th ed. Sinauer Associates, Sunderland, Massachusetts.

I recognize that college textbooks are a hefty expense for students, while acknowledging that many students find them helpful for their learning. I encourage you to consider purchasing a used textbook (campus bookstore, Chegg.com, thriftybooks.com, Amazon), finding an older student who is willing to loan/sell you their book, or renting the textbook instead of buying. Please send me an email or speak with me during office hours if you are in need and I can work with you to make sure you have the proper materials.

All course and assignment information will be posted on Canvas, which can be accessed using a personal smartphone or computer, or a UO library computer. To access our course Canvas site, log into canvas.uoregon.edu using your DuckID. If you have questions about using Canvas, visit the [Canvas support page](#). Canvas and Technology Support also is available by phone (541-346-4357) or by [live chat on the Live Help webpage](#).

Classroom Community Expectations

All members of the class (both students and instructor) can expect to:

Participate and Contribute: All students are expected to participate by attending class, sharing ideas, and contributing to the learning environment. This entails preparing before class, arriving on time, following instructions, asking questions, and engaging respectfully and thoughtfully with others.

Expect and Respect Diversity: All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. Everyone in the classroom is encouraged to use name tents with their pronouns and name or preferred nickname.

Help Everyone Learn: Part of how we learn together is by learning from one another. To do this effectively, we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and feedback from others. Don't hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.

Absences and Make-up Policy

I recognize that students have many additional responsibilities outside of this class, which may result in missed attendance or assignments. However, attendance is important because we will develop our knowledge through in-class activities that require your active engagement. Excessive absences make it difficult to learn well and succeed in the course. Though attendance is not graded in this class, it is unlikely that students who miss 3 or more classes will be able pass this course.

A majority of assignments for this course are structured so that you have plenty of time to complete them, even if you are absent for one or more days. However, please contact me if you feel an extension would be helpful. Make-up exams and assignments are uncommon but will be allowed if necessary.

The UO operates on a “reason-neutral” policy, which means that instructors cannot ask students why they were absent. So, if you need to miss a class, do not worry about emailing me and justifying your absence.

We know our UO community will still be navigating COVID-19, and some students will need to isolate and rest if they become ill. Please take absences only when necessary, so when they *are* necessary, your prior attendance will have positioned you for success. Students with COVID are encouraged to seek guidance and resources at UO's COVID-19 Safety Resources webpage.

Grading Policies

All assignments will be posted and submitted via Canvas, and feedback will be posted on Canvas in a timely manner.

Your total grade is determined as follows:

Assignment	% of Final Grade
Take Home Exams	50%
Problem Sets	20%

Canvas Quizzes	15%
Discussion Participation and Quizzes	15%

Grade %	Letter Grade
100% - 90%	A
89% - 80%	B
79% - 70%	C
69% - 60%	D
50% - 0%	F

Syllabus Changes

This syllabus may be altered throughout the term, to accommodate changes to course content or pacing as needed. Any changes will be announced in class and on Canvas and will be available on the latest version on the syllabus on Canvas.

University Policies

Accessible Education

The University of Oregon is working to create more inclusive learning environments, including for students who identify as having a disability. At UO, 10% of students use the Accessible Education Center (AEC) and nationally an estimated 20% of undergraduates identify as having a disability. If there are aspects of the instruction or design of this course that result in disability-related barriers to your participation, please contact me—your success matters.

You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 541-346-1155 or uoacc@uoregon.edu. The AEC offers a wide range of support services including note-taking, testing services, sign language interpretation and adaptive technology.

Accommodations for Religious Observances

The University of Oregon respects the right of all students to observe their religious holidays, and will make reasonable accommodations, upon request, for these observances. If you need to be absent from a class period this term because of a religious obligation or observance, please fill out the [Student Religious Accommodation Request fillable PDF form](#) and send it to me within the first weeks of the course so we can make arrangements in advance.

Additional Resources for Students

Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you're facing such challenges, you don't need to handle them on your own--there's help and support on campus. Getting help is a courageous thing to do—for yourself and those you care about.

[University Health Services](#) helps students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

Being able to meet your basic needs is also foundational to your success as a student at the University of Oregon. If you are having difficulty affording food, don't have a stable, safe place to live, or are struggling to meet another need, visit the [UO Basic Needs Resource page](#) for

information on how to get support. They have information food, housing, healthcare, childcare, transportation, technology, finances (including emergency funds), and legal support.

If your need is urgent, please contact the Care and Advocacy Program by calling 541-346-3216, filling out the [Community Care and Support form](#), or by [scheduling an appointment](#) with an advocate.

Academic Integrity

The [University Student Conduct Code](#) defines academic misconduct, which includes using unauthorized help on assignments and examinations, the use of sources without acknowledgment, and recording class without “the express written permission of the instructor(s).” Academic misconduct is prohibited at UO. I will report all suspected misconduct to the Office of Student Conduct and Community Standards. If the Office finds a student has committed misconduct, consequences can include of the relevant assignment or exam, or of the course.

While unauthorized help and use of sources without citation is prohibited, learning together and citing sources is crucial! Each assignment and assessment will have a note about whether and how you might work with others so that you can clearly act with academic integrity. All assignments will use [insert citation method], and you can find support in using [citation method] at the [UO Libraries' Citation Guides research guide](#).

If at any point in the term you are unsure about whether a behavior aligns with academic integrity in our course, please contact me. I view student questions about academic integrity as a desire to act with integrity, so I welcome your questions.

Mandatory Reporter Status

I am an assisting employee. For information about my reporting obligations as an employee, please see [Employee Reporting Obligations](#) on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at [UO's How to Get Support webpage](#).

I am also a mandatory reporter of child abuse. Please find more information at [Mandatory Reporting of Child Abuse and Neglect](#).”