

# BILD 3 – Organismic and Evolutionary Biology

## Winter 2022

**Professor:** Dr. LaTisha Hammond (she/her/hers)

**Email:** [lhammond@ucsd.edu](mailto:lhammond@ucsd.edu)

**Office Hours:** W 2 – 4pm, or by appointment

<https://ucsd.zoom.us/j/98389906878>

**Class Times:**

A00: MWF, 10:00 – 10:50am

B00: MWF, 1:00 – 1:50pm

**Class location:** Remote, asynchronous via Canvas

### Graduate, Head IAs

Hannah Strobel (A00), see below for info

Caitlin Wise (B00), see below for info

IA	email	office hours (Zoom)	Zoom links
Strobel, Hannah	<a href="mailto:hstrobel@ucsd.edu">hstrobel@ucsd.edu</a>	M 5:00p - 6:00p	<a href="https://ucsd.zoom.us/j/98363521272">https://ucsd.zoom.us/j/98363521272</a>
Florin, Anika	<a href="mailto:aflorin@ucsd.edu">aflorin@ucsd.edu</a>	W 9:00a – 10:00a	<a href="https://ucsd.zoom.us/j/7355840213">https://ucsd.zoom.us/j/7355840213</a>
Budroe, Hannah	<a href="mailto:hbudroe@ucsd.edu">hbudroe@ucsd.edu</a>	T 5:30p - 6:30p	<a href="https://ucsd.zoom.us/j/6339170058">https://ucsd.zoom.us/j/6339170058</a>
Uzor, Ngozi	<a href="mailto:nuzor@ucsd.edu">nuzor@ucsd.edu</a>	M 11:00a – 12:00p	<a href="https://ucsd.zoom.us/j/96887281440">https://ucsd.zoom.us/j/96887281440</a>
Wise, Caitlin	<a href="mailto:cdoherly@ucsd.edu">cdoherly@ucsd.edu</a>	T 11:00a - 12:00p	<a href="https://ucsd.zoom.us/j/2136184722">https://ucsd.zoom.us/j/2136184722</a>
Abdelkarim, Omar	<a href="mailto:omabdelk@ucsd.edu">omabdelk@ucsd.edu</a>	M 6:30p - 7:30p	<a href="https://ucsd.zoom.us/j/96609742369">https://ucsd.zoom.us/j/96609742369</a>
Allums, Ashley	<a href="mailto:aallums@ucsd.edu">aallums@ucsd.edu</a>	W 6:00p – 7:00p	<a href="https://ucsd.zoom.us/j/8583352271">https://ucsd.zoom.us/j/8583352271</a>
Nacayama, Michelle	<a href="mailto:mnacayam@ucsd.edu">mnacayam@ucsd.edu</a>	W 3:00p – 4:00p	<a href="https://ucsd.zoom.us/j/9504773119">https://ucsd.zoom.us/j/9504773119</a>

### Course Description

BILD 3 is an introduction to the biological fields of evolution and ecology. Evolution is the study of how populations of living organisms change over time. Ecology is the study of the relationships between living organisms and their environment. To best understand why there are so many different kinds of living things and their myriad of complex interactions, we will study evolution and evolutionary processes. We will also focus on organismal diversity and the importance of a general understanding of these topics within biology so as to be better stewards of the earth's biota. We will also discuss human impacts on global climates, species extinctions, environmental alterations, and the role of conservation.

### Course Objectives and Learning Outcomes:

- Posted on Canvas

### Course Format

This course will be held remotely. The **lectures will be asynchronous**. This means that each week all lecture content will be posted at the beginning of the week, along with required readings, and other key information. I will provide you general timelines on when things should be completed. Therefore, you will not need to login to Zoom for a live lecture session at the scheduled class time. You will watch the lectures by the dates I provide on the syllabus, so you have flexibility there.

The **discussion sections will be synchronous (live)** through Zoom at your scheduled discussion section time. Please see Canvas for the Zoom links. During the synchronous discussion sessions, we will have short discussions, content exercises, and collaborative group work.

## Assessment of Learning

### 1. Attendance, Participation, and Collaborative Group Work (60 pts, 10 pts each)

Attendance and participation in the course are highly valued, as they will give you opportunities to discuss and work through the various concepts we will cover. You will regularly work collaboratively with others in discussion section for the purposes of sharing knowledge, discussing and making sense of the information, and developing problem-solving skills as you apply your knowledge.

\*Note: If you are in a significantly different time zone, an asynchronous option will be available, but you will need to email your IA first to discuss this.

### 2. Assignments (100 pts, 20 pts each)

There will be 6 assignments to complete. These assignments will be assessments of discussion section learning exercises. The lowest assignment grade will be dropped.

### 3. Quizzes (100 pts, 25 pts each)

There will be nearly bi-weekly quizzes to assess your understanding of the lecture material and textbook readings as we move through the quarter, while also giving you practice with solving authentic biological problems. Each quiz will cover the lecture material since the last quiz (so, roughly two weeks of material each quiz). Your lowest scoring quiz will be dropped.

### 4. Midterm (100 pts)

There will be one midterm to assess your understanding of the core biological concepts we have covered up until that point in the quarter, and to determine how well you can apply those concepts and principles to novel biological problems and scenarios.

### 5. Final Exam (100 pts)

There will be one final exam **that will cover all the information from the midterm onward**, to assess your understanding of the core biological concepts we have covered, and to determine how well you can apply those concepts and principles to novel biological problems and scenarios.

## How will you succeed in this course?

Everyone has the ability to succeed in this course, regardless of whether you have taken many science and biology courses prior to this course, or if it has been many years since you have taken any kind of biology. The key comes down to preparation, participation, and communication.

*Preparation* – The course requires that you do the assigned readings BEFORE you view lectures and attending discussion section. You will often find yourself reading about the topic BEFORE we talk about it in the week's assigned lecture material. *This is intentional.* The purpose is to give you some time to begin familiarizing yourself with the material before you view the lectures, and before you participate in the discussion section activities. This also allows you to make note of questions you have from the readings, and can help focus your attention during the lectures and discussion section activities.

*Participation* – The course requires your regular, active participation for the purpose of learning. As you will regularly be working in collaborative groups to complete activities in discussion section, the more you are prepared, and the more you are willing to participate and contribute to the group learning experience, the more likely you are to succeed. Also, as you will often be working in groups, please remember to be respectful. Get to know each other. Be patient with each other. You are all on the learning journey together, so ask questions of each other, and help each other as best as you can. It is inevitable that you all will have some overlapping strengths, but also some differing strengths that can provide unique perspectives as you work together to complete activities and solve problems.

*Communication* – It can be challenging to speak up and ask questions in class, but please do so. Often, the question you have is similar to questions that others have, so asking the question often benefits everyone. Asking questions also helps the learning team get a sense of what you understand and what is not clear. Additionally, we are happy to take questions, via email, or during virtual office hours. If you start this habit early in the quarter, then we will be able to identify what challenges you are having and be better positioned to help you succeed in the course.

## **Evaluation of Learning**

Your final letter grade will be based on your **TOTAL** number of points. If you get over 90% of the points you will receive an A, over 80% you will receive at least a B, etc. **If needed** to adjust the distribution of letter grades upward, grades **may** be based on a curve. The curve will only be used (if it is used) to move letter grade thresholds down, so it can only help your grade, not hurt it. Don't assume there will be a curve; in many quarters, the point distribution is high enough that there is no need to adjust the thresholds. The final course curve, if there is one, is based on the students that are enrolled in the course at the end of the quarter. For those taking the class pass/no pass (P/NP), the minimum final grade to receive a grade of P is a C-. Please note that the University will not allow us to change a letter grade after it has been turned in except in cases of clerical error.

Attendance, Participation, and collaborative group work in discussion section (60 pts)  
Discussion section assignments (100 pts)  
Quizzes (100 pts)  
Midterm (100 pts)  
Final exam (100 pts)  
Total: 460 pts

Your final letter grade will be based on the following breakdown:

90%+ A-/A  
80%+ B-/B/B+  
70%+ C-/C/C+  
60%+ D  
<60% F

## Course Materials

### Texts, Readings, and other materials

The format of the class will mainly be discussion format and will require you to have some familiarity with the material being covered that day. As such, assigned readings and viewings must be completed BEFORE class. The required readings for the class are as follows:

#### *Textbook*

Campbell Biology, 12<sup>th</sup> edition (ebook), or Campbell Biology, 11<sup>th</sup> edition.

#### Technology requirements and platforms

You will need a computer with access to the internet for this class. The class content will be in Canvas.

*Canvas:* <https://Canvas.UCSD.edu/>. All assignments will be posted, and must be submitted through Canvas. Assessments of learning and grades will also be posted on Canvas only.

*Zoom:* Synchronous discussion sections will be held on Zoom (accessible through Canvas)

## Course Policies

### ***Attendance and Participation***

Attendance in discussion section is mandatory. If you must miss section due to an existing conflict (religious observances, university athletics, university performances, etc.) you must let the instructor know well in advance. These absences will be excused as long as documentation is provided.

Documented medical or family emergencies will also be excused. Otherwise, the absence will be unexcused. You are allowed one (1) free unexcused absence that will not count toward participation. Any unexcused absences after this free absence will result in a decrease in your participation grade.

### ***Assignments and Exams***

Unless I state otherwise, all assignments should be typed. All assignments should be submitted, via Canvas, by the due date. **Late assignments** will be accepted up to one week after the due date, with a deduction of 1% pt for each calendar day, with the exception of assignments delayed due to medical emergencies (personal or immediate family), legal emergencies (accident or court case), or funerary. In the case of an emergency, documentation will need to be presented to me. You are allowed one, 48hr free pass on a late assignment; meaning you can turn in **one** assignment up to 48hrs late, without penalty, but you must email you IA **before** the assignment deadline to let us know. **Make-up assignments** will only be made available for excused absences that were communicated to you IA *in advance*. **No make-up quizzes will be given, unless due to an excused absence.** **Make-up Exams** will only be considered for emergencies or university-approved absences, both of which will require documentation. In the case of university-approved activities, documentation will need to be presented to the instructor *well in advance* of scheduled exam date so that an alternative date *before the actual exam date* can be scheduled. No exceptions will be made for the Final Exam.

### ***Assignment Collaboration Policy and Academic Integrity***

Discussing course material and forming study groups is encouraged. Working with other students while you complete your assignments in a study capacity is also ok. HOWEVER, all work that is turned in should be of individual effort, meaning that all written work should be *in your own words of your own*

*effort.* Assignments demonstrating improper or excess collaboration may result in Integrity Code violation charges (see below in UC San Diego Policy on Integrity of Scholarship) and zero credit. The minimum penalty for academic dishonesty is to receive a zero on the assignment. Collaboration on exams (in class and take home) is not allowed. Academic dishonesty on an exam will result in receiving a zero on the exam. Major offenses will result in a failure of the course.

### ***Technology during synchronous sessions***

During synchronous sessions please refrain from using social media or other un-related tasks so that you can engage with your IAs and your peers respectfully.

### **Communication**

#### *Communicating with the instructional team*

Communicating with us is very important. Please utilize virtual office hours. If you absolutely cannot make those times, please email your IA so an alternate time can be set up (this may include attending the office hours of another IA). However, attending office hours is suggested and preferred. Should you need to email questions and cannot attend office hours, **please email your IA first**. If the question cannot be answered by your IA, or the head IA, then they will forward the email to me. Alternatively, you can email me, **but it must include the previous email chain from the IAs**. I will respond to emails by 4pm, M-F. Emails received after that time will be responded to the following weekday unless otherwise stated by me. I am not available for immediate responses late in the evenings or on weekends unless otherwise stated. In terms of email conduct, emails should be polite and professional, with proper salutations (e.g. Dear Dr. Hammond or Hi Prof. Hammond), and with your name at the end. Please include "BILD 3" in the subject line when emailing your IA.

#### *Instructor communications with you*

Whole-class announcements will be made via Canvas, so please check Canvas regularly for these announcements. Urgent class announcements will be sent directly to your UCSD email address.

**Wait list:** If you are on the wait list for this class you will be automatically added if space becomes available. If you have any concerns, please contact the Biology Student Affairs Advising Services office at 858-534-0557 or go to their website (<http://biology.ucsd.edu/education/undergrad/advising/index.html>). Please do not ask IAs to add you to their section; they do not have any control over this process.

### **Diversity, Equity, Inclusion, and Justice Statement**

Equity and justice provide the foundation for everything I do, from what I teach, how I teach, and how I move through the world. It is of utmost importance to me to ensure that the classroom space (in person and online) is one that fosters open, equitable, and safe dialogue and discussion. A diversity of perspectives and voices is critical to learning and living. Also, differing intersectional identities and privileges impact the learning space, and the discussions and collaborations that happen within. Given this, it is important to me to ensure there is equity in our learning spaces. Disagreements may arise and are sometimes necessary. However, not all disagreements are grounded in equity and thus, not entitled to the class space. As Robert Jones Jr. says: "*We can disagree and still love each other unless your disagreement is rooted in my oppression and denial of my humanity and right to exist.*" As such, I feel it is imperative to ensure that what happens in the classroom (in-person and virtually) supports

diversity and minoritized identities, voices, and experiences, and that the class activities are not at the expense of anyone in the space.

## Campus Policies

- [UC San Diego Principles of Community](#)
- [UC San Diego Policy on Integrity of Scholarship](#)
- [Religious Accommodation](#)
- [Nondiscrimination and Harassment](#)
- [UC San Diego Student Conduct Code](#)

## Accessibility

Any student with a disability is welcome to contact us early in the quarter to work out reasonable accommodations to support their success in this course. Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD). Students are required to present their AFA letters to faculty and to the OSD Liaison in the Division of Biological Sciences in advance so that accommodations may be arranged.

<http://disabilities.ucsd.edu>, [osd@ucsd.edu](mailto:osd@ucsd.edu), 858-534-4382

## Resources for Support and Learning

Learning and Academic Support	
<p><b><a href="#">Ask a Librarian: Library Support</a></b> <i>Chat or make an appointment with a librarian to focus on your research needs</i></p> <p><b><a href="#">Course Reserves, Connecting from Off-Campus and Research Support</a></b> <i>Find supplemental course materials</i></p> <p><b><a href="#">First Gen Student Success Coaching Program</a></b> <i>Peer mentor program that provides students with information, resources, and support in meeting their goals</i></p> <p><b><a href="#">Office of Academic Support &amp; Instructional Services (OASIS)</a></b> <i>Intellectual and personal development support</i></p>	<p><b><a href="#">Writing Hub Services in the Teaching + Learning Commons</a></b> <i>One-on-one online writing tutoring and workshops on key writing topics</i></p> <p><b><a href="#">Supplemental Instruction</a></b> <i>Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses</i></p> <p><b><a href="#">Tutoring – Content</a></b> <i>Drop-in and online tutoring through the Academic Achievement Hub</i></p> <p><b><a href="#">Tutoring – Learning Strategies</a></b> <i>Address learning challenges with a metacognitive approach</i></p>

Support for Well-being and Inclusion

**Basic Needs at UCSD**

*Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live is encouraged to contact: [foodpantry@ucsd.edu](mailto:foodpantry@ucsd.edu) | [basicneeds@ucsd.edu](mailto:basicneeds@ucsd.edu) | (858) 246-2632*

**Counseling and Psychological Services**

*Confidential counseling and consultations for psychiatric service and mental health programming*

**Triton Concern Line**

*Report students of concern: (858) 246-1111*

**Office for Students with Disabilities (OSD)**

*Supports students with disabilities and accessibility across campus*

**Community and Resource Centers**

**Office of Equity, Diversity, and Inclusion**

*As part of the [Office of Equity, Diversity, and Inclusion](#) the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus  
(858).822-.3542 | [diversity@ucsd.edu](mailto:diversity@ucsd.edu)*

**Get Involved**

*Student organizations, clubs, service opportunities, and many other ways to connect with others on campus*

**Undocumented Student Services**

*Programs and services are designed to help students overcome obstacles that arise from their immigration status and support them through personal and academic excellence*

\*\*Please note: This syllabus is subject to change, particularly because of campus efforts to contain COVID-19. Any schedule changes will be posted on Canvas. Make sure to frequently check Canvas to keep updated.

## Schedule of Lectures, Assignments, Quizzes, Readings: (schedule is subject to change)

Day	Dates	Topic	Required Readings: Campbell Biology Textbook chapters
M	Jan. 3	Introduction	
W	Jan. 5	Introduction; History of evolutionary thought	22.1 (optional)
F	Jan. 7	History of evolutionary thought	22.2
M	Jan. 10	Evidence of evolution	22.3
W	Jan. 12	Evidence of evolution	22.3
F	Jan. 14	Genetics of populations <b>Quiz 1</b>	23.1, 23.2
M	Jan. 17	<b>Holiday</b>	
W	Jan. 19	Genetics of populations	23.3
F	Jan. 21	Genetics of populations; Natural selection revisited	23.4
M	Jan. 24	Phylogenetic trees	26.1
W	Jan. 26	Phylogenetic trees	26.2, 26.3
F	Jan. 28	Species and speciation <b>Quiz 2</b>	24.1, 24.2
M	Jan. 31	Species and speciation	24.3, 24.4
W	Feb. 2	History of life on Earth	25.1, 25.2
F	Feb. 4	History of life on Earth	25.3, 25.4, 25.5, 25.6
M	Feb. 7	<b>**MIDTERM**</b>	
W	Feb. 9	Human evolution	
F	Feb. 11	Organismal diversity (bacteria, archaea)	27, 28
M	Feb. 14	Organismal diversity (plants, fungi)	29 - 31
W	Feb. 16	Organismal diversity (animals: invertebrates, vertebrates)	32 - 34
F	Feb. 18	The physical environment and biosphere <b>Quiz 3</b>	52
M	Feb. 21	<b>Holiday</b>	
W	Feb. 23	Population ecology	53
F	Feb. 25	Population ecology	
M	Feb. 28	Population ecology	
W	Mar. 2	Community ecology	54
F	Mar. 4	Community ecology <b>Quiz 4</b>	
M	Mar. 7	Ecosystem ecology	55
W	Mar. 9	Conservation, Global change	56
F	Mar. 11	Global change <b>Quiz 5</b>	
F	Mar. 18	<b>Final Exam – A00; 8 – 11am</b>	
F	Mar. 18	<b>Final Exam – B00; 11:30am – 2:30pm</b>	



## Discussion Section Schedule

Week	Topic/Activity	Assignment due
1	No discussion this week	
2	Introduction to Discussion; Q&A	
3	Population genetics exercise	Monday, Jan. 24, end of day
4	Genetic drift exercise	Week of Jan. 31
5	Phylogenetics exercise	in discussion section
6	Discussion optional, general Q&A	
7	Biodiversity exercise	Week of Feb. 14
8	No discussion this week	
9	Ecology reading discussion	
10	Global change exercise	Week of Mar. 7 (in discussion)

Section	Day	Time	IA	
A01	W	8:00a - 8:50a	Hannah Strobel	<a href="https://ucsd.zoom.us/j/99877971271">https://ucsd.zoom.us/j/99877971271</a>
A02	W	1:00p - 1:50p	Ngozi Uzor	<a href="https://ucsd.zoom.us/j/94982609618">https://ucsd.zoom.us/j/94982609618</a>
A03	F	11:00a - 11:50a	Hannah Budroe	<a href="https://ucsd.zoom.us/j/6339170058">https://ucsd.zoom.us/j/6339170058</a>
A04	F	12:00p - 12:50p	Hannah Strobel	<a href="https://ucsd.zoom.us/j/92703834185">https://ucsd.zoom.us/j/92703834185</a>
A05	F	1:00p - 1:50p	Anika Florin	<a href="https://ucsd.zoom.us/j/7355840213">https://ucsd.zoom.us/j/7355840213</a>
B01	W	10:00a - 10:50a	Omar Abdelkarim	<a href="https://ucsd.zoom.us/j/95804894390">https://ucsd.zoom.us/j/95804894390</a>
B02	W	11:00a - 11:50a	Caitlin Wise	<a href="https://ucsd.zoom.us/j/2136184722">https://ucsd.zoom.us/j/2136184722</a>
B03	W	12:00p - 12:50p	Caitlin Wise	<a href="https://ucsd.zoom.us/j/2136184722">https://ucsd.zoom.us/j/2136184722</a>
B04	F	2:00p - 2:50p	Michelle Nacayama	<a href="https://ucsd.zoom.us/j/9504773119">https://ucsd.zoom.us/j/9504773119</a>
B05	F	3:00 - 3:50p	Ashley Allums	<a href="https://ucsd.zoom.us/j/8583352271">https://ucsd.zoom.us/j/8583352271</a>