

BILD 3: Organismic and Evolutionary Biology

Course description

BILD 3 is an introduction to evolutionary biology, ecology (study of the relationships between living organisms and their environment) and the diversity of life on Earth, past and present. To best understand why there are so many kinds of living things and their myriad of complex interactions, we will study evolution and evolutionary processes. We will also discuss human impacts on the environment, and the role of conservation.

By the end of this course, you should have a basic understanding of:

- The Darwinian model of evolution, and how this is supported by numerous modes of evidence.
- Evolutionary processes and the patterns they create both within and among species.
- Major events in the history of life on Earth.
- The evolutionary origins of humans.
- The diversity of life, past and present, and the evolutionary relationships between major groups of organisms.
- How organisms interact with their environment, and ecological concepts at the population, community and ecosystem level.
- How global environmental change caused by human activity threatens species, and approaches to conservation.

Contact information

Instructor

José Waterton (jwaterto@ucsd.edu)

Office: AP&M Building, Room 3840

Office hours: Friday 11.30am-12.30pm, Mandeville Coffee Cart

Instructional Assistants (IAs)

Jon Bricke (jbricke@ucsd.edu)

Office hours: Tuesday & Thursday 2.00-3.00pm, Mandeville Coffee Cart

Donovad Haddad (dhaddad@ucsd.edu)

Office hours: Monday & Wednesday 12.30-1.30pm, Audrey's Café in Geisel Library

Course websites

TritonEd - tritoned.ucsd.edu

TritonEd is where information and materials relating to the class, such as section assignments, homeworks, exam information etc. can be accessed. Be sure to navigate the class website as early as possible to get acquainted, and feel free to email your IA if you unsure about using it.

Concurrent enrollment (extension) students are not added to TritonEd automatically. Extension students can bring proof of enrollment to the ACMS Help Desk (Applied Physics and Math bldg. 1313, M-F, 8.00am-4.30pm) to obtain TritonEd access. More information for extension students can be found at <https://extension.ucsd.edu/student-resources/>.

Podcasts - podcast.ucsd.edu

Lectures will be available to download and view as podcasts within an hour of the end of lecture. Podcasts will only contain lecture slides and accompanying audio, so material presented elsewhere (e.g. on the chalkboard) will not be included.

Required materials

iClicker

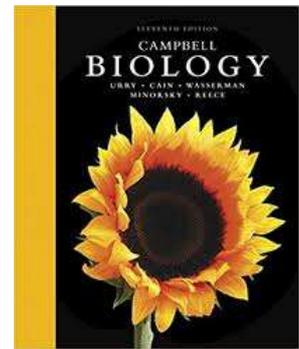
Older versions of the iClicker can be used as long as the remote ID can be read and the remote can be registered on TritonEd. You cannot share an clicker remote with another student enrolled in this class (but you can share with someone who is not in our class).

Supplementary materials

Textbook - Campbell Biology, 11th edition

Much of the material presented in lectures is based on Campbell Biology (11th edition). If you wish to read further or review topics, the textbook is on reserve at Geisel Library for the duration of the quarter. For those who want to their own copy of the textbook, these may be purchased or rented both online and at the UCSD Bookstore.

However, you do not need to purchase the textbook to succeed in this class. The publisher of Campbell Biology offers various supplemental materials including a CD, a website called Mastering Biology, and a book of exercises. Again, these are not required to succeed in the class.



Lectures

MTuWTh 11.00am-12.20pm, Warren Lecture Hall 2005

Clicker questions will be presented during lectures. These are designed to be in the style of questions you will get in exams. These are graded only on participation (you get credit for clicking in, regardless of which answer you choose). Keep track of how you are doing on clicker questions to gauge your understanding of the material as the class progresses.

To receive credit, you need to register your clicker remote using the link on our TritonEd course menu. Clickers will be used during every lecture, beginning with Lecture 2 on Tuesday July 3rd. In Lecture 2, we will be practicing with the clickers and the points will not count. This is a great opportunity to make sure you know how to use your clicker and your clicker is working properly. I will post the points on TritonEd so you can check. Starting Thursday 5th July, you will receive points for answering clicker questions in lecture. I will assume your clickers are working properly by this time. Further details on clicker grading and instructions for clicker use can be found within the Grading and Clicker instructions sections of this syllabus.

Any students found to be clicking in for classmates who are not in lecture, or if someone else is clicking for you when you are not in lecture, will get an automatic zero for ALL clicker points. This is considered cheating and will be reported to the Academic Integrity Office.

Lecture slides in PDF form will be posted on triton.ed.ucsd.edu after each lecture, and lectures will be posted as a video podcast within an hour after each class time on podcast.ucsd.edu. However, skipping lectures is strongly discouraged. Participating in in-class discussions is important to your understanding of the material, and material may be presented in class that is not included on the slides or podcasts.

Discussion sections

Sections will meet twice a week beginning in the first week of classes (only one section in Week 1 because of the July 4th holiday). Sections will discuss assigned readings, discuss material from lecture, or do exercises. You must attend the discussion section you registered for. If you know in advance that you will be unable to attend a particular section, email your IA and they will help you arrange attending another section with the same activity if possible. If you miss section for a good, temporary reason, email your IA and arrange to attend another section with the same activity if possible. If you cannot attend a particular section, there will be no opportunities to make-up the activity. However, you can still get full credit for discussion sections if you participate in and complete the activities for 8 of the 9 discussion sections during the quarter.

All material from section readings and activities may be assessed in exams. See [List of IAs and discussion sections](#) below for information regarding times and locations of discussion sections.

Pay attention to when work from discussion section exercises are due, as late assignments will not be accepted. Other accommodations will be made on assignments only under extraordinary circumstances. Please understand that accepting late work in less extreme cases is unfair to other students.

Exams

Midterm: Monday July 16th (Week 3), 11.00am – 12.20pm

Final: Friday August 3rd (Week 5), 3.00pm – 6.00pm

There is one midterm exam worth 30% of your grade and a final exam worth 50%. Exams will cover material covered in lecture, readings assigned for section, and section exercises. Use the learning objectives (on TritonEd) as a guide to what lecture/reading material you need to know for the exams. The midterm will cover material up to and including the lecture preceding the exam (lectures 1-7). The final exam is not cumulative and will cover all the remaining lectures (lectures 8-18). Exam scores will be available after grading is complete, and exam answers will be returned by your IAs. Questions concerning exams will be addressed in discussion sections or in IA and/or Instructor office hours. We will check photo ID at each exam, so please bring a photo ID. Students who do NOT have photo ID will not be permitted to take the exam. To be eligible for a regrade, you must write answers in pen. You may use a calculator in exams, but this does not include calculators on your cell phone or any other device that can communicate with others or access the internet. If you are unsure about whether your calculator will be allowed, check with an IA well in advance.

Grading

The breakdown of points is shown in the table below.

Assessment	Points	Percentage of Final Grade
Midterm	90	30%
Final	150	50%
In-class clicker participation	15	5%
Discussion section activities	45	15%
TOTAL	300	

Clicker participation

If you answer at least 80% of the clicker questions during the quarter, you will get full credit. If you answer less than 80% of the questions, your participation grade will be based on the proportion of questions you answered. For example:

Answered 60% of questions: Score = 60% (9 points out of possible 15)

Answered 90% of questions: Score = 100% (15 points)

Clicker questions will only count towards your grade after the first two lectures (i.e. beginning July 5th).

Discussion sections

There are 5 points available for participating in and completing (to an acceptable standard) each discussion section activity. You can still get full credit for discussion sections if you participate in and complete the activities for 8 of the 9 discussion sections during the quarter. For example:

Participate in and complete activities for 7 of 9 sections: Score = 78% (35 points out of 45)

Participate in and complete activities for 8 of 9 sections: Score = 100 % (45 points)

Missing exams

If you miss an exam, then you will be required to provide official documentation of an unavoidable emergency (serious illness, etc.). Without such documentation, you will receive no points for that exam. If you miss the midterm AND have valid documentation, the proportion of your grade that is based on your final exam will be increased to cover the missed midterm. If you miss the final exam AND have valid documentation, you will receive an incomplete for the course and be re-tested in the next quarter.

Regrades

To request a regrade, write a statement on a piece of paper explaining which questions you believe were graded incorrectly and why, and return this along with the exam to your IA. Note that exams written in pencil are not eligible for a regrade. Be aware that regraded answers may be awarded fewer, more, or the same number of points as initially given, so only request a regrade if you are confident there has been a mistake.

Final grade

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 will 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. For those taking the class pass/no pass (P/NP), the minimum final grade to receive a grade of P is a C-. The final course curve is based on the students that are enrolled in the course at the end of the quarter. Please note that the University will not allow us to change a letter grade after they are turned in except in cases of demonstrable clerical error.

Enrollment

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 visit

<http://biology.ucsd.edu/education/undergrad/advising/index.html>.

Administrative, advising, or registration questions should be submitted via the Virtual Advising Center which can be accessed through

<https://students.ucsd.edu/academics/advising/index.html>.

Academic integrity

Integrity of scholarship is essential for an academic community. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind.

Specifically, no student shall:

- Knowingly procure, provide, or accept any unauthorized material that contains questions or answers to any examination or assignment to be given at a subsequent time.
- Complete, in part or in total, any examination or assignment for another person. This includes responding to clicker questions for another student in the class.
- Knowingly allow any examination or assignment to be completed, in part or in whole, for himself or herself by another person.
- Plagiarize or copy the work of another person and submit it as his or her own work.
- Employ aids excluded by the instructor in undertaking course work or in completing any exam or assignment.
- Alter graded class assignments or examinations and then resubmit them for regrading.
- Submit substantially the same material in more than one course without prior authorization.

Any violation of UCSD's Policy on Integrity of Scholarship will be reported to the Academic Integrity Office. If you are caught cheating on an exam, you will receive an F for the class.

If you do not understand these expectations and authorizations, please speak with the Instructor as soon as possible. You can read the official UCSD policy at

<http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>.

Etiquette

Email

Please only contact me for important matters, otherwise please email your instructional assistant (IA) for all other inquiries. Please put **BILD 3** in the subject line to indicate your email is about this course and include your first and last name in the body of the email. Be aware that emails after 8pm are unlikely to be seen until the following day. Please refer to the syllabus for course information before sending emails. Additionally, remember you can get answers to questions in lectures, discussion sections, IA and professor office hours, and from your fellow students!

Lecture and discussion sections

You are expected to arrive on time, turn off cell phones, and respect your classmates. Participation is strongly encouraged!

Materials

Please do NOT post lectures or class documents on public websites like Course Hero or others. Assembling materials takes considerable time and effort, and these are not intended for the public to view or download.

Special accommodations

Students requesting accommodations and services due to a disability for this course need to provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD), prior to eligibility for requests. Receipt of AFAs in advance is necessary for appropriate planning for the provision of reasonable accommodations. OSD Academic Liaisons also need to receive current AFAs. For more information, contact the OSD at (858) 534.4382 (V); (858) 534-9709 (TTY); osd@ucsd.edu, or visit <http://disabilities.ucsd.edu>. You will need to coordinate scheduling of exams with me. All of these arrangements should be made within the first two weeks of the quarter.

Tips for success

Here is the best strategy for getting an A in this class:

- Go to lecture, participate in discussions, and take notes.
- Pay attention to the learning objectives provided. I base exams on these.
- When you take notes, write down a summary and essential details of the lecture; don't try to write down every word. The process of synthesizing and summarizing the lecture in your notes helps you learn the material.
- Go over your notes within the next day or so and fill in details missed in lecture or topics you didn't understand using material presented in the book or online or in discussion section.
- If you miss lecture, listen to the podcast and take notes as if you were in class. However, it's better to come to class; any material not presented on the slides may be difficult to comprehend by podcasts alone (for example material on the chalkboard).
- Study in groups! It's more efficient and helps build your confidence. It's a big class and a big university, and you will do best if you build a network of peers to learn with and get support from. Quiz each other on the learning objectives and other class

material to find out what you actually know vs. what you thought you knew until you had to explain it to a friend!

- Reflect on how many of the clicker questions you get right, and how confident you are in your answers.
- Go to your discussion section to have questions answered, discuss topics in detail, and get extra help and guidance.
- Ask for clarification during lecture. Questions during lecture are strongly encouraged!
- Go to the professor and your IA's office hours and ask questions. It's not an imposition; we expect and want you to do it! The best students ask for help.

The amount of material presented in this course can seem overwhelming if you don't keep up on a regular basis. Because the lectures build on each other, be prepared to put a constant and steady amount of effort. If you fall behind, the interaction between the different lectures will make it difficult for you to recover. However, if you keep pace, this course should be rewarding.

Bring any questions to discussion section, contact IAs through email or office hours, or come to my office hours. Office hours are the best place to ask complex questions – you will get a much more thorough answer. Don't wait until the last minute. You should have a clear understanding of all the examples - why was each example important? If necessary, use the text to reinforce concepts discussed in lecture.

If you are having academic difficulty, OASIS at <http://oasis.ucsd.edu/> can help. They provide tutoring, as well as classes in study skills and time management. If you are having personal difficulties, do not hesitate to seek help at Psychological and Counseling Services at <https://psychservices.ucsd.edu/>, which is free to students. They can help you get over many types of hurdles.

If you have serious medical or personal problems during the quarter, the university does allow medical withdrawals. Contact the Biology Student Affairs Advising Services office at 858-534-0557 or go to their website at <http://biology.ucsd.edu/education/undergrad/advising/index.html>.

Clicker instructions

It is your responsibility to have your clicker with you at lecture and to make sure it is working properly. There will be no make-up opportunities for clicker questions, for any reason, nor can you get clicker credit for handing in questions on paper, etc.

Clicker registration

You must register your clicker through TritonEd to receive credit for responses during class. If you have not registered your clicker by July 5th, then it will be too late and you will receive zero clicker points until you register.

Register your clicker using the link on our TritonEd page. On the left side of the screen, there is a list with Syllabus, Lectures, etc. At the bottom of that list is iClicker Registration. Click on

that and follow the instructions. If you have used a clicker for a previous class, and registered it through TritonEd, you do not need to register it again.

NOTE: The instructions that come with your remote ask you to register your clicker at www.iclicker.com. While you are welcome to do this, it is not necessary.

You will not see your clicker points on TritonEd until you have registered your clicker. To ensure your clicker is working properly, please register RIGHT AWAY. Every student in this course must have their own clicker to receive clicker points.

Using your clicker

Turn your clicker on with the orange power button. Set it to the frequency in our room. I will ask questions, and you will respond by pushing buttons A – E. Please wait until I start the voting before you respond. There will be a timer on the screen when the voting has begun. When your answer has been received, you will see a checkmark at the top of the clicker screen. While the timer is going, you can change your answer as many times as you want by pressing different buttons.

Lost clickers

If you lose your clicker mid-quarter and use a different clicker, you need to change your registration in TritonEd *and* you need to email your IA with this information before the next lecture): a) your student ID number b) your clicker ID.

Clicker troubleshooting

It is your responsibility to use Lecture 2 to practice using your clicker and make sure that your clicker is working, as I do not adjust scores for malfunctioning clickers. To be clear, if your clicker is not working, I will NOT award points retroactively, so you MUST figure out why it's not working immediately. No exceptions.

If you are not getting the points you deserve:

- Be sure you have registered your clicker on TritonEd (NOT at www.iclicker.com).
- Make sure your remote is on the correct frequency.
- Make sure you wait until I start the question before you answer - you should see the timer going.
- Make sure you answer before time has run out. No answer is accepted after the time has ended.
- Every student in this class needs their own clicker – if you are sharing with another student one of you will not get any points.
- Are your batteries still good?

If you have done everything correctly, but your clicker is still not working, please see one of the IAs for assistance. They will help you troubleshoot your clicker and check it. If your clicker is malfunctioning, the bookstore will exchange it. We cannot do anything to check your clicker over email, nor can we check it before or after class. It is your responsibility to make sure you are getting the points you deserve. If there is a problem, you need to solve it or see one of the IAs right away so we can resolve the problem for future lectures.

Recommendations:

- Bring extra batteries (clickers require 2 AAA batteries)
- Put your name on
- Cover the ID number on the back with a piece of clear tape to prevent it from rubbing off.
- Make a note of your ID number in case it becomes unreadable.

Schedule

Lectures and exams

Week 1	
Monday 7/2	History of evolutionary thought & class information
Tuesday 7/3	Evidence of evolution
Wednesday 7/4	HOLIDAY – NO CLASS
Thursday 7/5	Natural selection

Week 2	
Monday 7/9	Sexual selection
Tuesday 7/10	Genetics of populations
Wednesday 7/11	Phylogenetics
Thursday 7/12	Species

Week 3	
Monday 7/16	MIDTERM EXAM
Tuesday 7/17	History of life I
Wednesday 7/18	History of life II
Thursday 7/19	Evolutionary developmental biology

Week 4	
Monday 7/23	Human evolution
Tuesday 7/24	Biodiversity I
Wednesday 7/25	Biodiversity II
Thursday 7/26	Physical environment

Week 5	
Monday 7/30	Population ecology
Tuesday 7/31	Community ecology
Wednesday 8/1	Ecosystem ecology
Thursday 8/2	Global environmental change & conservation
Friday 8/3	FINAL EXAM

Discussion sections

Readings and worksheets for discussion sections can be downloaded from the TritonEd website.

Week	Section	Activity
1	Mon/Tues	Syllabus scavenger hunt
	Wed/Thurs	NO SECTION
2	Mon/Tues	Genetic drift exercise
	Wed/Thurs	Phylogenetics exercise
3	Mon/Tues	How many species reading discussion
	Wed/Thurs	Human evolution reading discussion
4	Mon/Tues	Biodiversity show & tell
	Wed/Thurs	Ecology reading discussion
5	Mon/Tues	Ecological experiment design exercise
	Wed/Thurs	Conservation exercise

Other important dates

Deadline to drop course without "W": July 13th.

Deadline to drop course with "W": July 31st.

Other important dates and deadlines can be found at

<http://summer.ucsd.edu/calendar/index.html>.

IAs and discussion sections

You must attend the discussion section you are registered for in order to receive credit.

If you have a special, valid reason for needing to attend an alternate discussion section, email your IA and they will help you arrange attending another section with the same activity if this is possible. You must get permission before attending a different section.

IA	Email	Discussion section day and time	Discussion place	Office hours time and place
Jon Bricke	jbricke@ucsd.edu	<u>Section A01</u> Mon/Wed 2.00pm <u>Section A02</u> Mon/Wed 3.00pm	HSS 1305 HSS 1305	Tuesday & Thursday 2.00-3.00pm, Mandeville Coffee Cart
Donovan Haddad	dhaddad@ucsd.edu	<u>Section A03</u> Tues/Thurs 1.00pm	HSS 1305	Monday & Wednesday 12.30-1.30pm, Audrey's Café in Geisel Library

You may come to the office hours of any IA or the instructor.

Portions of this syllabus adapted from Sarah Stockwell.