
Spring 2020
MWF 9 – 9:50 AM
Zoom

BILD 3

Organismic and Evolutionary Biology

Professor: Dr. Kim Cooper
E-Mail: kcooper@ucsd.edu

NOTE: On all emails, **please put BILD 3 in the subject line** to indicate your email is about this course or you may not receive a response. This is simply because I get dozens of emails each day.

Course Description: BILD 3 is an introduction to biology in the context of whole organisms, their evolution, ecology, and behavior. The planet is teeming with a vast diversity of life, and the goal of this course is for you to understand the nature of that diversity, the evolutionary origin of species, mechanisms for the continuing diversification of life, and the ecological relationships between living organisms and their environment. We will also discuss human impacts on global climates, species extinctions, environmental alterations, and the role of conservation in protecting species diversity.

How to excel in this class: 1) Print out the Handouts from Canvas to have handy while you watch the Podcast. 2) Watch the Podcast and take additional notes - identify concepts and highlight areas that seem unclear to you. 3) Post questions to the Chat during MWF Zoom sessions with Dr. Cooper or to the Discussion Board on Canvas. 4) Download the Concepts and Vocab study guide after the lecture. Go over your notes to answer the questions and define vocabulary. Work with others to discuss the study guide. Revisit material with the Podcast, the textbook if needed, and by searching online for related material. 5) Attend the online discussion sections with questions and attend professor/IA office hours. 6) “Virtual” study together with others. Their knowledge will fill your gaps and vice versa, and studying with another person gives you the opportunity to teach, which reinforces learning.

Please make sure that you check out this website for resources on how to learn remotely:
<https://digitallearning.ucsd.edu/learners/learning-remote.html>

Grading: 100 Points: Midterm 1
100 Points: Midterm 2
100 Points: Non-cumulative final (effectively Midterm 3)
90 Points: Quizzes (Nine 10 pt quizzes – weekly from Week 2 – Week 10)
80 Points: Worksheets (Four will be posted one week before each is due. Each worth 20 pts)
18 Points: Section attendance (2 pts **each week** – attend **ANY** section for max 2 pts per week)
Total graded points available = **488**
10 Points: Extra credit points available. Details announced after lecture 12.

The class is not graded on a curve, rather the average of the top 5% of the class will be normalized to 100%, and letter grade cutoffs will be made at 10% intervals after normalization, (e.g. 90-100%=A, 80-90%=B, etc.) Therefore helping your classmates doesn't hurt you, and everyone can get an A.

Cheating: Don't do it. I rely on you to be honest, to work hard, and to accept the grade that is the outcome of your hard work. Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. **Academic misconduct** is broadly defined as any prohibited and dishonest means to receive course credit, a higher grade, or avoid a lower grade. Academic misconduct misrepresents your knowledge and abilities, which undermines the instructor's ability to determine how well you're doing in the course. Please do not risk your future by cheating. Those caught cheating will be reported to the Academic Integrity Coordinator, which reports directly to the Dean of the student's college. For the Academic Integrity policy at UCSD, see here: <http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>.

Graded assignments will be timed in such a way to make it difficult to use resources outside of your own understanding. I will also periodically check websites known to support 'contract cheating' for evidence my assignments have been posted, and I will report findings to the Office of Academic Integrity. Students suspected of AI violations on exams will be invited to Zoom follow-up meetings where they will be asked to (in real time and recorded on video) justify their answers before the graded exams or solutions are released. If I am not convinced during the meeting that the student has achieved a level of understanding that matches their performance on an exam or assignment, or if the student refuses to participate, I will report the student for AI violations.

Textbook: Campbell Biology, 11th edition (**NOT REQUIRED**). You will only be tested on information and concepts covered in lecture. However, this material also appears in certain chapters of this book, annotated in the syllabus, and you may find it helpful to refer to the book for additional information. Credible resources for almost everything I discuss can also be found for free online. The publisher of Campbell Biology also offers a CD, a web site called Mastering Biology, and a book of exercises. These supplemental materials may be useful to you, but they are NOT required. Used copies are available online or at the bookstore, and several copies of the texts are on reserve at Geisel Library. Older versions of Campbell Biology could also be helpful to you. Previous editions are similar, but not identical, and could still be a good resource.

Lectures: All material presented in lectures is fair game for the exams. Use the handouts and podcasts in advance to come to my Zoom class period prepared with questions. Use the 'Chat' feature to ask questions, or 'Raise Your Hand' to ask by voice/video. **All Zoom sessions during MWF lecture time from 9 am to 10 am will be recorded and made available asynchronously.**

Discussion sections: If you attend any IA-led discussion section, you will receive 2 points per week for weeks 2-10. Sections are there to provide a smaller group community for you to review material and answer questions. See Canvas for information regarding times and links for discussion sections.

Exams: There are two midterms worth 100 points and a **non-cumulative** final exam also worth 100 points. Only material presented in podcast lectures will be covered on the exams. **I will NOT test on material from the book that isn't in lecture.** Each exam will cover material up to the lecture preceding the exam. Questions concerning exams will be addressed in Discussion Sections or in IA and/or Professor office hours.

OSD students: If you need testing accommodation for this class, please work with the Office for Students with Disabilities (OSD). 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 <http://osd.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.**

Enrollment questions: Administrative, advising, or registration questions should be submitted via the Virtual Advising Center (vac.ucsd.edu).

Problems? 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 (<http://biology.ucsd.edu/undergrad/advising-services.html>).

Lecture Schedule

Date	Lecture Topic	Textbook Chapters Campbell 11 th Ed. Pages listed below
March		
30	1. Introduction and History of evolutionary thought, Part 1	466-475
April		
1	2. History of evolutionary thought, Part 2	
3	3. Fossil transitions, vestigial structures, and homology	477-482, 728-729, 736-737
6	4. Genotype/phenotype relationships	484-487, 495-496, 498-499
8	5. Types of Selection	487-491
10	6. Probability and Hardy-Weinberg	498-502
13	7. Hardy-Weinberg and effects of selection and fitness	476, 491-495
15	8. Microevolution, genetic drift, and gene flow	497-508
17	9. Sexual selection and species concepts	509-514
20	10. Species concepts and speciation	509-514
22	MIDTERM I on Lectures 1-9	
24	11. Phylogenetic trees	551-562
27	12. Taxonomic groupings	479
29	13. History of life on Earth Part 1	523-540
May		
1	14. History of life of Earth Part 2	
4	15. Organismal diversity I (bacteria, archaea, protists)	571-613
6	16. Organismal diversity II (algae and plants)	616-669
8	17. Organismal diversity III (fungi and most inverts)	671-732
11	18. Organismal diversity IV (deuterostomes to human evolution)	
13	19. Human evolution Part 2 and Intro to Ecology	746-752
15	20. Abiotic factors and biomes	1162-1184
18	MIDTERM II on Lecture 10 – Human Evolution	
20	21. Population ecology (life histories)	1188-1193
22	22. Population ecology (growth models)	1194-1209
25	Memorial Day (no class)	
27	23. Community ecology (interspecies interactions)	1212-1219
29	24. Community ecology (trophic structures)	1220-1232
June		
1	25. Ecosystem ecology (production efficiencies)	1236-1246
3	26. Ecosystem ecology (nutrient cycles and climate change)	1246-1250, 1272-1282
5	27. Loss of biodiversity and conservation	1258-1272
10	Non-comprehensive Final Exam on Lectures 20-27	