

# BIODIVERSITY (BIEB 140)

Tu/Th: 11 AM - 12:20 PM

Professor Kaustuv Roy

	Date	Lecture Topic	Tasks/Assignments
WK 1	Tu Jan 9	<b>Introduction, defining and measuring biodiversity</b> Reading: Costello et al. 2013	
	Th Jan 11	<b>Phylogenies and the tree of life</b> Readings: Gould 1992 & Omland 2014	No assignments this week
	Discussion	No Discussion Section	
WK 2	Tu Jan 16	<b>A very short history of biological diversity</b> Reading: Simpson & Kiessling 2010	
	Th Jan 18	<b>Early History of Animals</b> Readings: Fox 2016 & Droser & Gehling 2015	No assignments this week
	Discussion	No Discussion Section	
WK 3	Tu Jan 23	<b>Invertebrates I</b> Readings: None	
	Th Jan 25	<b>Reefs, past, present and (?)future</b> Reading: Knowlton & Jackson 2013	Quiz 1: lectures 1-4
	Discussion	Paper + General Discussion	Paper summary: Costello et al. 2013
WK 4	Tu Jan 31	<b>Invertebrates II</b> Readings: Labandeira & Sepkoski 1993 & Brown 2001	
	Th Feb 1	<b>Plants</b> Reading: Enquist et al. 2001	
	Discussion	Paper + General discussion	Paper summary: Knowlton & Jackson 2013
WK 5	Tu Feb 6	<b>Fishes, Amphibians and Reptiles</b> Reading: Seehausen 2015	
	Th Feb 8	<b>Birds – the feathered dinosaurs</b> Reading: Xu et al. 2014	Quiz 2: lectures 5 - 8
	Discussion	General Discussion	
WK 6	Tu Feb 13	<b>The mammalian radiation</b> Reading: Jones & Safi 2011	
	Th Feb 15	<b>Deep Sea Biodiversity – the final frontier</b> Readings: Canganella & Kato 2014; Van Dover et al. 2002	
	Discussion	Paper + General discussion	Paper summary: Enquist et al. 2001
WK 7	Tu Feb 20	<b>Biogeography &amp; Macroecology</b> Readings: Gaston 1996; Gaston 2000	
	Th Feb 22	<b>Global climate change &amp; Biodiversity I</b> Readings: None	Quiz 3: lectures 9-12
	Discussion	No Discussion Section	
WK 8	Tu Feb 27	<b>Global climate change &amp; Biodiversity II</b> Readings: Moritz et al. 2008	
	Th Feb 29	<b>Exploitation of Biodiversity and its consequences</b> Readings: Fenberg & Roy 2008; Pauly & Watson 2003	
	Discussion	Paper + General discussion	Paper summary: Moritz et al. 2008
WK 9	Tu Mar 5	<b>Extinctions I</b> Reading: Jablonski 2008	
	Th Mar 7	<b>Extinctions II</b> Reading: Barnosky et al. 2011	Quiz 4: Lectures 13-16
	Discussion	General Discussion	
	Tu Mar 12	<b>Why Biodiversity matters and the future</b> Reading: None	

<b>WK 10</b>	Th Mar 14	<b>Open Discussion of topics covered in the class</b>	No assignments this week
	Discussion	Paper + General Discussion	<b>Paper summary: Barnosky et al. 2011</b>
	Th Mar 21	"FINAL" 11:30 AM - 2:29 PM	<b>Quiz 5: Lectures 17-19</b>

All course content available at: <http://canvas.ucsd.edu/>

### **\*Class Logistics and Policies - Please read carefully\***

#### **Office hours for Professor Roy:**

Wednesday 1:30 - 2:30 PM Muir Biology 1113. Or by appointment.

**Course expectations:** This is an upper division EBE class that builds on the knowledge gained in the introductory and lower division EBE classes. Without such background, you are unlikely to do well in this class.

**Course Website:** The BIEB 140 course site on Canvas should provide you with required readings, assignments, and quizzes.

**Lectures:** *This is an in-person class and students are expected to attend all lectures.* This class does not have a textbook and so the lecture materials are the primary content and the focus of exams. Because of that, students who attend the lectures typically do better in this class.

**Readings:** This class has no textbook but everyone is expected to read and understand the scientific papers assigned to each lecture. These papers were chosen to supplement the material that can be covered in a lecture. Required readings for individual lectures are in the "Readings" folder on Canvas as pdf files. The copyright of each of these articles is with their respective publishers/authors. By downloading an article, you agree to limit the use of the pdf file to printing of single copies for personal study. You may not modify the files in any way, or to use them for commercial purposes.

**Guide to the Readings:** The assigned readings for this class are either review papers that provide a broad overview of a topic or primary research paper. In either case, **you don't need to "memorize" all the details. What is important is to understand the general conclusions and the main points of the paper**, not the details of methods or associated information. In other words, **please focus on the big picture as it pertains to the lectures.**

**Instructional Assistant** e-mail

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**Discussion Sections:** The discussion sections in this class are designed around a peer-based active learning model that will allow you to (i) become comfortable reading and understanding primary scientific literature and (ii) better understand the topics covered in lecture through group discussion.

**Some of the discussion sections have assigned readings where you will need to write a summary of that paper. Please see Lecture Schedule for the assignments.** The pdfs of all the papers are available in Canvas. You are expected to carefully read the paper assigned for that week and write a 1 page summary answering the following:

(i) what scientific questions(s) was the paper addressing [1 paragraph]

(ii) what are the main conclusion(s) of the paper [1 paragraph]

(iii) provide a brief critical review of the paper [1 paragraph]

**Print out and hand the paper summary to your IA at the start of the discussion section.**

Your IA will then lead a discussion of the paper using all the summaries. You are expected to participate in the discussion.

In addition to paper discussions and quizzes, the discussion sections will also help you with lecture contents. For this you should come prepared to ask any questions you have. The IA will answer the questions and lead any subsequent discussion. **Unlike in some other classes, your IA will not do a lecture/presentation in the discussion section. So, in order to get most out of the discussion sections, please come with questions about the lectures that you want discussed/clarified.**

**The points for the discussion section are based on the written summary, your participation in the discussions and attendance. If you fail to submit the summary before the discussion section starts you can stay and participate but will not get any credit for that assignment.**

**In order for us to grade the paper summaries and keep track of your section scores you need to attend the Discussion section you registered for. You will not get credit if you attend a different section.**

### **Grading:**

We will not be using Mid-term and Final exams model for evaluating your performance. Instead your final grade for the class will be based on:

**Quizzes:** There will be a total of 5 quizzes throughout the quarter, given every other week. Each quiz will be worth 50 points but only your four highest scoring quizzes (total of 200 points) will count towards your final grade. Quizzes will include T/F, multiple choice and short answer questions from the lectures and assigned readings. **The quizzes will be given asynchronously in Canvas. No late/makeup quizzes.**

Quizzes will be available on alternate Thursdays starting Jan 25 (see quiz dates in the schedule earlier in this document) from 10 AM - 10 PM Pacific Time. Only exception is the last quiz, which will be during the scheduled Final exam for this class. Quizzes will be timed in Canvas and once you start taking a quiz you will need to finish it within the assigned time.

**Paper summaries:** There will be five paper summaries due during discussion sections as described above. **These assignments should be printed out and submitted to your IA during the relevant discussion section. No late submissions will be accepted.**

	Points	% of grade
Quizzes (4 out of 5)	200	80%
Paper summaries (5)	100	20%
	300	100%

Your final letter grade will be based on the total number of points you receive using the e-grades scheme below. The class will not be graded on a curve UNLESS that would benefit the entire class. We will review the collective scores on week 8 and determine if grading on a curve will be beneficial.

A+	100%	to	97%
A	< 97%	to	94%
A-	< 94%	to	90%
B+	< 90%	to	87%
B	< 87%	to	84%
B-	< 84%	to	80%
C+	< 80%	to	77%
C	< 77%	to	74%
C-	< 74%	to	70%
D	< 70%	to	60%
F	< 60%	to	0%

**Make up Policy: All quizzes and paper summaries need to be completed by the specified deadlines. Because we only have one TA for a class this large, late submissions will not be accepted and there will be no make-ups for any assignments for his class. We will only consider exceptions in the case of documented illness.**

**To prepare for the quizzes:**

1. Attend the lectures! I would recommend taking your own notes during the lectures. ALL questions will come directly from the lectures and assigned papers.
2. Read the papers! Quizzes may have questions about the papers; these questions will require that you understand the material covered in each paper and the conclusions of the study.
3. Attend section regularly - there you will be able to ask questions about the lectures and papers, which should help you better understand the material.
4. **Do not cheat! Disciplinary steps will be taken when cheating is discovered. These steps may include failing the class and being reported to the appropriate authorities.**

**\*\*\*A MESSAGE FROM THE UCSD ACADEMIC INTEGRITY OFFICE:**

**Statement of Academic Integrity:**

Students are expected to do their own work, as outlined in the UCSD Policy on Integrity of Scholarship <<http://www-senate.ucsd.edu/manual/appendices/app2.htm>>. Academic misconduct will not be tolerated. Any student who engages in suspicious conduct will be confronted and subjected to the disciplinary process. Cheaters will receive a failing grade on the exam, and/or in the course. They may also be suspended from UCSD pursuant to University guidelines. (Translation: just don't do it!)

**Academic misconduct includes but is not limited to:**

1. Cheating, such as using "crib notes" or copying answers from another student during the exam.
2. Plagiarism, such as using the writings or ideas of another person, either in whole or in part, without proper attribution to the author of the source.
3. Collusion, such as engaging in unauthorized collaboration on exams, completing for another student any part or the whole of an exam, or procuring, providing or accepting materials that contain questions or answers to an exam or assignment to be given at a subsequent time