BIOLOGY OF GLOBAL CHANGE (BIEB 182)
Tu/Th: 2 - 3:20 PM SEQUO 148

Class Logistics and Policies - Please read carefully

Academic integrity is taken very seriously at UCSD and in this class. Any student caught cheating will automatically receive a Failing Grade

You must attend the discussion section you are registered for. No credits if you attend a different section

Office hours for Professor Roy:
Tuesdays 10 – 11 AM – Hubbs Hall 4175 (at SIO) 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.

Lectures: I highly recommend attending the lectures. This class has no textbook and so the lecture materials are the primary content and the focus of exams. Also, data show that, on average, students who attend the lectures tend to do better in this class. Lecture slides will be posted on TritonED before each lecture – you may want to download them prior to class to facilitate note taking. **Please remember to turn off cellphones at the beginning of the class**.

Readings: This class has no textbook but **everybody 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 for Lecture and Discussion" folder on TritonED either as pdf files or links to the journal article. You can use the links to either read the paper online or download a pdf. 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 necessarily all the details of methods or associated information. In other words, please focus on the big picture as it pertains to the lectures.

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.

Most of the discussion sections have assigned readings. Please see Lecture Schedule and Readings below for the assignments. The pdfs of all the papers are in the Readings for Lectures and Discussion folder on TritonED**. Each week you are expected to carefully read the paper assigned for that week and write a very brief summary answering the following:**

(i) what scientific questions(s) was the paper addressing [1 -2 sentence]

(ii) what are the main conclusions of the paper [2-4 sentences]

Hand in a hard copy of the summary (no e-mail or other electronic format) to your IA at the beginning of the discussion section. Make sure to put your name on the summary.

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

The second half of the discussion section will focus on the lectures. 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 can be discussed.**

The points for the discussion section are based on the summary, your participation in the discussions and attendance. If you come to a discussion section without a summary you can stay and participate but will not get any credit for that week.

Grading: Midterm Exam = 40% Final Exam = 50% Discussion Sections = 10%

Make up Policy: **There will be no make- up exams for his class. The only exceptions are in the case of documented illness or emergency.**

Lecture Schedule and Readings

Week 1

Jan 8: Introduction to the class; what is the Anthropocene?
Reading: *Corlett 2015*

Jan 10: Climate change – past, present and future
Reading: *Zalasiewicz and Williams 2016*

Discussion: Meet and Greet. No readings

Week 2

Jan 15: Biogeography
Reading: *None*

Jan 17: Climate change and species range shifts
Reading: *Elith and Franklin 2013*

Discussion: Elith and Franklin 2013

Week 3

Jan 22: Climate change and phenology
Reading: *Cohen et al. 2018*

Jan 24: Climate change and disease dynamics
Reading: *Metcalf et al. 2017*

Discussion: Metcalf et al. 2017

Week 4

Jan 29: Warming, acidification and marine biodiversity
Reading: *Poloczanska et al. 2016*

Jan 31: Midterm Exam

Discussion: No Readings; review for Midterm; BRING QUESTIONS

Week 5

Feb 5: Fisheries and wildlife trade – past, present and future
Reading: *Milner-Gulland and Bennett 2003*

Feb 7: Biological consequences of human harvesting of wild species
Reading: *Fenberg and Roy 2008*

Discussion: Fenberg and Roy 2008

Week 6

Feb 12: Urbanization – history and overview
Reading: *McKinney 2002*

Feb 14: Urbanization – biological consequences
Reading: *Alberti 2015*

Discussion: Alberti 2015

Week 7

Feb 19: Urbanization – biological consequences
Reading: Johnson and Munshi-South 2017

Feb 21: Urbanization - biotic homogenization
Reading: *None*

Discussion: Johnson and Munshi-South 2017

Week 8

Feb 26: Extinctions – past, present and future
Reading: *Barnosky et al. 2011*

Feb 28: Extinctions – past, present and future
Reading: *Huang and Roy 2015*

Discussion: Barnosky et al. 2011

Week 9

March 5: Synergies among impacts, Planetary boundaries and phase shifts
Reading: *Brook et al. 2008*

March 7: Conservation and Sustainability
Reading: *Kareiva and Marvier 2012; Doak et al. 2014*

Discussion: Kareiva and Marvier 2012; Doak et al. 2014

Week 10

March 12: Conservation and Sustainability
Reading: *None*

March 14: Discussion - Adapting to a changing world
Reading: *None*

Discussion: No Readings; review for Final; BRING QUESTIONS