

BIEB 130: Marine Conservation Biology

Lecture: Tu/Th 8:00-9:20 AM, Center 119

Professor: Dr. Carolyn Kurle, ckurle@ucsd.edu, Muir Biology 4218 (office)

Office Hour: Tuesday, 10-11 am

If you can't make my office hour, please attend one of the TA's office hours. You can go to any of the TA's office hours, not just the TA for your section.

Contact: Please only contact me if it is very important. The best way to contact me is via email (ckurle@ucsd.edu). On all emails **PLEASE put BIEB 130 in the subject line** to indicate your email is about this course. Due to the number of students, I cannot individually answer questions about course content by email. Ask questions during lectures, discussion sections, and my own and the TA's office hours.

Teaching Assistants:

David Dannecker (ddanneck@ucsd.edu)

-Office Hour: W, 12-1, Price Center Theater Lobby

Victoria Hanna (vhanna@ucsd.edu)

-Office Hour: W, 1-2, Muir Biology 4268

Maryam Jafari Rasht (mjafarir@ucsd.edu)

-Office Hour: W, 1:30-2:30, Price Center Theater Lobby

Cali Turner Tomaszewicz (cturnert@ucsd.edu)

-Office Hour: Th, 10-11, Muir Biology 4268

Course Goals

- Understand the nature and impact of human activities on marine ecosystems
- Understand the biological principles that explain the mechanisms by which these impacts occur
- Appreciate the diversity of marine ecosystems and how we can use science to: identify impacts, measure them, and suggest novel approaches for protection and restoration
- Develop capabilities for accomplishing measurable conservation actions

Grading: 100 Points: Midterm 1

100 Points: Midterm 2 (non-cumulative)

40 Points: Quizzes (given in discussion sections)

30 Points: Participation and Attitude (from discussion sections)

10 Points: Summary statements of two presentations given on the day of our final

8 Points: Extra credit points available

Ted: Lecture notes and all reading material will be available on Ted (<https://ted.ucsd.edu>) by the end of the day preceding each lecture. Instruction on how to access Ted can be found here:

<http://acms.ucsd.edu/students/index.html>. Extension students can bring proof of enrollment to the ACMS Help Desk (Applied Physics and Math bldg. 1313, M-F, 8:00-4:30) to obtain Ted access. More information for

extension students can be found here: <http://extension.ucsd.edu/student/index.cfm>. **Contact the help desk at Ted if you have problems.**

Lectures: All material presented in lectures is fair game for the exams. Lecture notes will be posted on [Ted.ucsd.edu](http://ted.ucsd.edu) before each lecture, but they are, at best, outlines, **and essential material will be presented in class that does not appear on web-posted notes or in the readings.** Lectures will also be posted as a **video podcast** within 24 hours after each class time and can be accessed at Podcast.ucsd.edu.

Readings: There is no text book for this course. Instead, we have readings that are available on Ted (under the Files with Class Readings section). There will usually be two folders of readings for each topic presented in lecture. One folder contains PDFs of additional readings that are NOT required, but are supplied for your interest.

A second folder contains PDFs of required readings that will be covered in the exams. The required reading folder also contains the readings that will be covered most closely in discussion sections.

Exams: There will be two midterms that will be in short answer and longer, essay answer format. Grading of these questions WILL include grammar, structure, and clarity. Material presented in lecture and in the required reading will be covered on the exams. We will check photo ID at each exam, so please bring a student ID or driver's license. Once exams are returned, questions concerning exams will be dealt with in discussion sections or in TA and/or Professor office hours.

There are no re-grades or make-up exams. If you miss an exam, you are 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 first midterm AND have valid documentation, the proportion of your grade that is based on your final midterm will be increased to cover the missed midterm. If you miss the final midterm AND have valid documentation, you will receive an incomplete for the course and be re-tested in the next quarter.

Quizzes: Four quizzes will be given in discussion sections every two weeks. These 15 minute quizzes will cover the previous two weeks of lecture and reading material. The quiz schedule is listed below. Format will be short answers and multiple choice. **All quizzes will be given in the first 15 minutes of class. The quizzes will be collected after 15 minutes and there are no make ups for missed quizzes.** If you come in late, you get less time. If you come in really late, you miss the entire quiz.

Discussion sections: Sections are required and attendance will be monitored and active participation will be 11% of your grade. All required readings are open for discussion, but there are selected required readings that will be the main focus of the TAs attention and will help drive the discussion in section. These discussion readings are found on Ted within the required reading folders and are listed below in the discussion section schedule. **You will NOT earn full participation credit by simply attending section; you MUST actually participate in the discussions in order to get full participation credit.**

MLK and President's Day Holidays: The two Monday discussion sections **will meet** on the two holidays that occur during this quarter (January 21 and February 18) for those of you who will be around and want to get your discussion points and take your quizzes during your regular Monday sections. However, Monday discussion section students can choose to attend any of the other four discussion sections that week or they can take the quiz during any of the five available TA and Professor office hours that week for full participation credit.

Final exam/Summary statements: There is no final exam in this class. Instead, you will have an opportunity to expand on a marine conservation topic (either alone or in a group) and make a presentation to the class during our final exam time on that topic. It may be something you want to learn more about, it may be a call to action about a particular problem, it could be an expansion of what you are doing for extra credit. There are many directions you could go with this. Your TAs will provide you with some guidance in their office hours and discussion sections and you will come up with topic ideas that your TAs will post on our Ted site by week 4. Students can group together based on mutual interest in topic ideas and all groups who want to present should be finalized by week 6. You don't get points for presenting, but everyone will be required to attend the presentations that will be given during our final exam time and everyone will be required to write brief summaries of two of the presentations. Presentations can take the form of PowerPoint slides, plays, etc., but should aim to last 10-15 minutes. This is a perfect opportunity to educate us about a particular topic that we didn't cover or covered only briefly or get the class to do something that could be beneficial for a marine conservation problem.

Extra credit: You can receive extra credit points for the course if you: 1) identify a real and important marine conservation issue, and 2) present evidence of your effort to understand the issue, and 3) take a direct action to improve that issue (e.g. volunteer work, letter writing, etc.). **This is due March 12.**

Cheating: In the unlikely event that you succumb to temptation and decide to cheat, you will be caught and handed over to the Academic Integrity Coordinator. For information: <http://students.ucsd.edu/academics/academic-integrity/index.html>.

OSD students: Contact the Office of Students with Disabilities (OSD) at 858.534.4382, 858.534.9709 (TTY) or through their website (<http://disabilities.ucsd.edu/index.html>). Coordinate scheduling of exams with me within the first two weeks of the quarter.

Enrollment questions: Should be submitted via the Virtual Advising Center (vac.ucsd.edu).

Discussion Sections

Time	Place	TA
M, 1-1:50	Center 207	David Dannecker
M, 4-4:50	Center 201	Maryam Jafari Rasht
Tu, 5-5:50	HSS 1305	Victoria Hanna
W, 3-3:50	Center 201	Victoria Hanna
F, 2-2:50	Center 220	Cali Turner Tomaszewicz
F, 3-3:50	Center 220	Cali Turner Tomaszewicz

Lecture Schedule (subject to change)

Date	Subject	Required Reading Folder (on Ted)
January		
8	Overview of Marine Conservation, Human Impacts	1. Overview
10	Marine vs. Terrestrial Ecosystems	2. Marine vs Terrestrial
15	Marine Habitats	3. Marine Habitats
17	Marine Biodiversity and Ecosystem Services	4. Marine Biodiversity
22*	Marine Ecosystems: Stability, Food Webs, Trophic Cascades, Subsidies	5. Marine Ecosystems
24	Population Biology and Extinction	6. Population Biology
29	Fisheries Management I: Fishing Down Food Chains, Shifting Baselines	7. Fisheries Management 1
31	Fisheries Management II: Traditional Management Models	8. Fisheries Management 2
February		
5*	Fisheries Management III: Habitat Destruction, Bycatch	9. Fisheries Management 3
7	Midterm 1 (covers material from lectures 1-9)	
12	Marine Protected Areas, Marine Spatial Planning	10. Marine Protected Areas
14	Ecosystem Based Fishery Management	11. Ecosystem Based management
19*	Coastal Development	12. Coastal Development
21	Aquaculture	13. Aquaculture
26	Introduced Species	14. Introduced Species
28	Pollution, Harmful Algal Blooms, Eutrophication	15. Pollution
March		
5*	Ocean Climate, El Niño, Pacific Decadal Oscillation	16. Climate Change
7	Climate Change	16. Climate Change
12	Ocean Acidification	17. Ocean Acidification
14	Midterm 2 (covers material from lectures 10-18)	
21	Final (presentations and summary statements)	

Discussion Section Schedule

Week	Subjects	Papers required for discussion
January		
7	Overview and ecosystems compared	Conservation 2007, Halpern 2008
14	Habitats, biodiversity, services	Worm et al. 2006, Cardinale et al. 2012
21*	Trophic cascades, population biology	Myers et al. 2007, Kappel 2005
28	Fisheries management 1 and 2	Heithaus 2008, Pauly 2003, Worm & Hillborn 2009
February		
4*	Fisheries management 3, midterm review	Lewison 2004
11	MPAs, ecosystem based management	Pisco 2007, Foley 2010, Crowder 2006
18*	Coastal development, aquaculture	Jackson 2008, Cressey 2011, Cressey 2009, Rosenberg 2008
25	Introduced species, pollution	Molnar 2008, Diaz 2008, Moran 2011
March		
4*	Climate and climate change	Dietz 2009, Hoegh-Guldberg 2010
11	Ocean acidification, midterm review	Schiermeier 2011, Gewin 2012

*Denotes a quiz week in Discussion Section.