BIEB 130: Marine Conservation Biology
Lecture: Tu/Th 1100-1220, York Hall 2622
Entire class online Zoom: https://ucsd.zoom.us/j/93384538539

Professor: Dr. Carolyn Kurle, ckurle@ucsd.edu, Muir Biology 4218 (office)
Office Hour: Tuesdays, 130-230 pm via Zoom (https://ucsd.zoom.us/j/94783818954)
If you can't make my office hour, please attend any of the TA office hours (see below)

Contact: 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. Also, please ask questions during lectures, discussion sections, and my own and the TA's office hours.

Teaching and Instructional Assistants:
Kara Reynolds (ksreynol@ucsd.edu)
-Remote Office Hour: Th, 5-6 pm, Zoom: 522 840 7346, pass: 2nPBMB
Nikki Mercer (nmercer@ucsd.edu)
-Remote Office Hour: M, 8-9 am, Zoom: 920 1622 4360
Brandon Tsai (btsai@ucsd.edu)
-Remote Office Hour: W, 5-6 pm, Zoom: 970 6248 9587
Sabrina Saura (ssauri@ucsd.edu)
-Remote Office Hour: Th, 9-10 am, Zoom: 703 832 9257

Course Goals
- Understand the nature and impact of human activities on marine ecosystems
- Understand the biological principles underlying 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 ecosystem conservation, protection, and restoration
- Develop capabilities for accomplishing measurable conservation actions

Websites: Lecture notes: canvas.ucsd.edu under Files Tab; Video Podcast: podcast.ucsd.edu; Piazza for questions for and interactions with other students and IAs: Use the **code bieb130** and sign up for Piazza here: https://piazza.com/university_of_california_san_diego/winter2022/bieb130/home; Link to our Piazza course page: https://piazza.com/university_of_california_san_diego/winter2022/bieb130/home

Grading: 100 Points: Midterm Essay 1
100 Points: Midterm Exam 2
40 Points: Quizzes (4, 10-point quizzes given throughout the quarter)
27 Points: Participation and Attitude in discussion section (3 points per discussion section)
10 Points: Presentations in final two weeks of Discussion Sections
10 Points: Summary statements of presentations given in Discussion Sections
287 Total graded points available
10 Points: Extra credit points available (see below)

Canvas: Lecture notes and all reading material will be available on Canvas (https://canvas.ucsd.edu) by noon the day of lecture. 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 Canvas access. More information for extension students can be found here: http://extension.ucsd.edu/student/index.cfm. **Contact the help desk at Canvas if you have problems.**

Text me with questions during class: I use Textfree during lecture. You can anonymously text me questions at **858.333.6239** and I will pause throughout to check and answer your questions. This is a way for us to interact without you feeling self-conscious. I love the interaction texting offers, so please text questions! **NOTE: Raising your hand and asking a question is also completely welcome!**

iclicker:
We will be using clickers in class. This is a response system that allows you to answer questions I pose in class. **You will NOT be graded on your in-class participation**. Register your iclicker remote using the link on our Canvas course menu. iclickers will be used during every lecture. Older versions of the iclicker can be used if the remote ID can be read and the remote can be registered on Canvas. You cannot share an iclicker remote with another student enrolled in this class (but you can share with someone who is not in our class).

My philosophy on iclickers is that it's a way for us to interact - both with me and with your fellow students - during lecture. It helps me understand if you are understanding, it allows for discussion, connection, and further clarity on topics. Research clearly shows that students do better with some degree of interactive learning, so this is one way to achieve that in a large class.

Piazza: We will be using Piazza for answering questions or discussions of issues related to BIEB 130. The system is catered to getting you help fast and efficiently from classmates, the TAs, and me. Rather than emailing questions to the teaching staff, consider posting your questions on Piazza. You can do this anonymously if you wish and it allows others to see answers to questions they may not have even though of.
Please sign up and use this resource. Our Piazza page is:
https://piazza.com/university_of_california_san_diego/winter2022/bieb130/home
Use the **code bieb130** and sign up for Piazza here:
https://piazza.com/university_of_california_san_diego/winter2022/bieb130

Lectures: The posted lecture notes are 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 **podcast** within 24 hours after each class time and can be accessed at Podcast.ucsd.edu.

Readings: There is no textbook for this course. Instead, we have required readings available on Canvas that will pertain to lecture material and will be covered most closely in discussion sections.

Exams:
The first midterm will be in essay format. Your response to the essay question will be limited to 2 pages, type-written, single-spaced, 12-point font, with 1-inch margins. This will be handed in online via our Canvas page. You will get the question a week in advance, so you will have a week to prepare your answer using your own research from any source. You then write your essay and upload it to Canvas on February 3, 2022. The window to submit your essay via Canvas will be open for 24 hours from 12:01 am to 11:59 pm PST on February 3, 2022. If you can adequately answer the question in fewer than two, single spaced pages, then there is no need to fill two pages. However, anything written over two pages will not be graded, so restrain yourself. Please cite your sources using numbered citations and include those as a third page with your two-page essay. Grading of the essay WILL include grammar, structure, and clarity. Once returned, questions concerning the essays will be addressed in discussion sections or in TA and/or Professor office hours.

The second midterm will consist of short and long answer questions covering material from all lectures and readings. The exam window will be open for taking the exam via Canvas for 24 hours from 12:01 am on March 10 to 11:59 pm March 10 and you will have 80 minutes to complete the exam once you start. This exam is open notes, book, and internet. But please do not work together.

Quizzes: There will be a total of four quizzes throughout the quarter. One quiz will be available to take every two weeks via Canvas. These 10-minute quizzes will cover the previous two weeks of lecture and reading material. The quiz schedule is listed below in the discussion section schedule. The format will be short answers and multiple choice. Quizzes will be posted on Canvas on the Monday of a quiz week, and you can take the quiz at

any time during the week. Once you open the quiz, you'll have 10 minutes to complete the questions, so pay attention to time as you work

Discussion sections: Section attendance via Zoom will be monitored, and active participation will be a portion of your grade (see above). All required readings are open for discussion and these readings are found on Canvas and are listed below in the discussion section schedule.

Presentations/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 your discussion section in the final two weeks of class on that topic. It may be something you want to learn more about, it may be a call to action about a 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. Students can group together based on mutual interest in topic ideas. Please finalize your groups by week 7 so your TA can plan the schedule of presenters and allow for adequate time management. Everyone is required to present, and everyone is required to write brief summaries (1 to 2 sentences) of all presentations in your section. Presentations can take the form of PowerPoint slides, plays, puppet shows, musical numbers, etc., but should aim to last 5 to 10 minutes. The exact amount of time will depend on the number of students/groups who participate in each section and will be organized by your TAs. This is a perfect opportunity to educate others on a topic we didn't cover or covered only briefly or get the class to do something beneficial for a marine conservation problem.

Extra Credit: To earn 10 points of extra credit, 1) identify a real and important marine conservation issue, and 2) present evidence of your effort to understand the issue (write a one-page summary of the issue), and 3) take a direct action to improve that issue (volunteer work, letter writing, etc.). You will turn this in via Canvas and **this is due to your TA by March 10.**

Grading: Your final letter grade will be based on your TOTAL number of points. **If everyone earns enough points that they fall at or above 90%, I have no problem giving everyone an A- or better.** However, that is unlikely (but I'd love to have you prove me wrong!). Therefore, if warranted, letter grades will be based on a curve. This means I will make sure that the top 20% of students will receive A- or above grades (even if that means going below 90%); the next 30% of students will receive B- and above grades; the next 40% of students will receive C or D grades, and the final 10% will receive F grades. **And let me reiterate**, ALL students getting a 90% or higher will get at A- or better, regardless of whether it's 20% or 100% of you. In addition, unless I end up curving the class to achieve 20% A- or better grade allocation, if you receive an 80% to 89%, you will get a B- to B+, and if you get 70% to 79%, you will get a C- to C+.

I give plus and minus grades but only on the final course grades. The pluses and minuses do not make the curve easier; they only help to differentiate the scores within the ranges above. Please note that the university will not allow me to change a letter grade after they are turned in except in cases of demonstrable clerical error.

Academic Integrity/Cheating: Please don't cheat. Anyone found cheating will be 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: Visit academic advising (https://students.ucsd.edu/academics/advising/).

Discussion Sections

Time	**Place**	**TA**
Tu, 7-7:50 pm	Zoom: 522 840 7346, pass: 2nPBMB	Kara Reynolds
W, 10-10:50 am	Zoom: 924 3338 5955	Nikki Mercer
Th, 8-8:50 am	Zoom: 703 832 9257	Sabrina Sauri
Th, 6-6:50 pm	Zoom: 522 840 7346, pass: 2nPBMB	Kara Reynolds
F, 10-10:50 am	Zoom: 997 1672 1018	Nikki Mercer
F, 2-2:50 pm	Zoom: 970 6248 9587	Brandon Tsai

Lecture Schedule

Date	**Subject**
January	
4	1. Overview of Marine Conservation, Human Impacts (online Zoom)
6	2. Marine vs. Terrestrial Ecosystems (online Zoom)
11	3. Marine Habitats (online Zoom)
13	4. Marine Biodiversity and Ecosystem Services (online Zoom)
18	5. Marine Ecosystems: Stability, Food Webs, Trophic Cascades, Subsidies
20	6. Population Biology and Extinction
25	7. Fisheries Management I: Fishing Down Food Chains, Shifting Baselines
27	8. Fisheries Management II: Traditional Management Models
February	
1	9. Fisheries Management III: Habitat Destruction, Bycatch (online Zoom)
3	Midterm 1: Essay
8	10. Marine Protected Areas, Marine Spatial Planning
10	11. Ecosystem Based Fishery Management
15	12. Coastal Development
17	13. Aquaculture
22	14. Introduced Species
24	15. Pollution, Harmful Algal Blooms, Eutrophication
March	
1	16. Ocean Climate, El Niño, Pacific Decadal Oscillation
3	17. Climate Change
8	18. Ocean Acidification (online Zoom)
10	Midterm 2: Exam

Discussion Section Schedule; *Quiz week

Week	**Subjects**	**Papers for discussion**
January 4	No Sections	NA
11	Overview	Halpern et al. 2015, Parsons 2016, Claudette, et al. 2020
18*	Biodiversity and Ecosystem Services	Cochrane et al. 2016
25	Population Biology	Kindsvater et al. 2016
February 1*	Fisheries Management	Collie et al. 2016
8	Fisheries Management and MPAs	Gill et al. 2017
15*	Aquaculture	Clark 2019 (2 articles), Kim 2017, Visser 2018, Mapes 2018, Weinberger 2019, York 2011, Goodyear 2015 (these are short)
22	Pollution, Climate Change	Hoegh-Guldberg & Poloczanska 2017, Welch 2016, Eisenstein 2021, Mazur 2021
March 1*	Presentations	NA
8	Presentations	NA