

Syllabus: SIO 181: Marine Biochemistry Spring 2020

INSTRUCTOR

E-mail

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TAs

Bethany Shimasaki

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Lucas Martz

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LECTURE HOURS

Tuesday & Thursday 11.00 am- 12.20 pm

ZOOM Meeting ID 158-140-943

Join URL: <https://ucsd.zoom.us/j/158140943> ([Links to an external site.](#))

Online Classroom Instruction Policies

This course will be taught using live, online audio and visual instruction and will take place during the times indicated in the UCSD Schedule of Classes. Live lecture attendance is not required, but is highly encouraged so that questions can be asked and answered during the lecture and interactive discussions can be carried out.

This class will be recorded and made available to students asynchronously. All attempts possible will be made to record lectures and post them to Canvas in a timely manner. However, recorded lectures cannot be guaranteed. In the event that lecture recording fails, lecture notes will be posted. The lectures will also be available as Podcasts.

Netiquette

To minimize background noise and promote clear communications during live online lectures:

- Use headphones for audio.
- Keep your microphone on MUTE until you need to ask a question. Then return your microphone to MUTE.

Communication

In an online course, the majority of our communication takes place in forums that are visible and/or audible to all. However, when we have a need for communication that is private, whether personal, interpersonal, or professional, we will use individual email. For timely response to course questions, please contact TAs first. As needed, TAs will refer questions that they cannot answer to me. In an online classroom, another major method of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to

go in-depth, and more time to think through an issue before posting a comment or sending an email. However, written communication also has certain disadvantages, such as lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions, and gestures. As a result, please be aware of the possibility of miscommunication and compose your comments/emails in a professional, respectful, and constructive manner.

Code of Conduct

As we, as a campus community, transition to online instruction, please be aware that your Professors and Administrators are adapting at the same time that you are. Let us all pledge to remain respectful, supportive, and adaptable to ensure that educational goals are met. All participants in the course are bound by the UCSD Code of Conduct, found at: <https://students.ucsd.edu/sponsor/student-conduct/policiesandprocedures.html> [Links to an external site.](#)

Other FAQs

<https://academicintegrity.ucsd.edu/faq/index.html> [Links to an external site.](#)

OFFICE HOURS:

Tuesday & Thursday 12.30-1.30 pm

ZOOM Meeting ID 337-340-062

Join URL: <https://ucsd.zoom.us/j/337340062> [\(Links to an external site.\)](#)

Bethany's Office Hours:

Tuesday 5-6pm

- <https://ucsd.zoom.us/j/743254522> [\(Links to an external site.\)](#)

Thursday 6-7pm

- <https://ucsd.zoom.us/j/940388857> [\(Links to an external site.\)](#)

SEMINARS (Start on Week Two)

1) Tuesday 4.00-4.50 pm (Bethany)

Join URL: <https://ucsd.zoom.us/j/876081145> [\(Links to an external site.\)](#)

2) Tuesday 5.00-5.50 pm (Lucas)

Join URL: <https://ucsd.zoom.us/j/277472186> [\(Links to an external site.\)](#)

3) Tuesday 6.00-6.50 pm (Lucas)

Join URL: <https://ucsd.zoom.us/j/473546403> [\(Links to an external site.\)](#)

4) Thursday 5.00-5.50 pm (Bethany)

Join URL: <https://ucsd.zoom.us/j/424377911> (Links

[to an external site.](#))

REQUIRED TEXTBOOKS:

None, instructors will upload reference material to Canvas.

COURSE GOALS

To provide an introduction of biochemical and physiological adaptations in diverse marine organisms and how those adaptations are important in their natural environment and in relation to anthropogenic activities.

LEARNING OBJECTIVES

By the conclusion of the course, the students should be familiarized with biochemical and physiological adaptations used by marine organisms. In particular, they should have learned principles on essential physiological processes such as:

- Aerobic and Anaerobic Metabolism
- Acid-Base regulation
- Nitrogen metabolism
- Osmoregulation
- Mechanisms to achieve and maintain buoyancy
- Biochemistry and physiology of coral, *Osedax* worms, and hagfish

The students should also become familiar with the most important biochemical and physiological adaptations that are characteristic of marine organisms, including general and species-specific mechanisms.

COURSE WEBSITE:

Course materials will be available through Canvas Be sure to check the course website frequently for announcements, updates and assignments.

GRADING:

Quizzes (*Weeks 2, 3, 4, 5, 7, 8, 9, 10*).....**40 points** (8 quizzes, 5 points each)

Midterm Exam (Week 6).....30 points

Final Exam (Week 11).....30 points

TOTAL.....100 points

Week #	Date	Topic
1	Tue March 31	Introduction
	Thu April 2	Enzymes
2	Tue April 7	Aerobic and Anaerobic Metabolism
	Thu April 9	Oxygen Transport
3	Tue April 14	Hypoxia Adaptations
	Thu April 16	Hypoxia Adaptations
4	Tue April 21	Acid-Base Regulation
	Thu April 23	Acid-Base Regulation
5	Tue April 28	Osmoregulation
	Thu April 30	Osmoregulation
6	Tue May 5	Midterm (home based)
	Thu May 7	Midterm (home based)
7	Tue May 12	Nitrogen Metabolism
	Thu May 14	Buoyancy
8	Tue May 19	Temperature

	Thu May 21	Biochemistry and Physiology of CORAL
9	Tue May 26	Biochemistry and Physiology of CORAL
	Thu May 28	Biochemistry and Physiology of OSEDAX bone-eating worms
10	Tue June 2	Biochemistry and Physiology of HAGFISH
	Thu June 4	Review session
11	Tue June 9	Final exam - Remote - 11.30 am - 12.30 pm