

**SIO 275 A Winter 2020**  
**Wed, Fri 10:00 - 11:20 AM**  
**Ritter Hall rm 229**  
**Instructor: James Leichter (jleichter@ucsd.edu)**  
**Office: Ritter Hall rm 328**  
**Office hours by appointment**

### **Course Description and Requirements**

SIO 275, *Benthic Ecology*, is a graduate course intended to cover contemporary and past ecological research in the ecology of seafloor habitats. A goal is to guide students to achieve a basis in the field to support future research. The emphasizes natural history and experimental ecological research in the broad range of coastal marine habitats, primarily in shallow water of the coastal zones. Course requirements include class participation, readings and discussion, written weekly short questions based on class materials, 2 written essays on topics of those questions, and a research proposal written in the format of an agency or foundation pre-proposal.

1. Develop one follow-up questions from each class lecture or discussion (1 question per day, due each week).
2. Write two 1 to 2 page essays on the topic of one of your lecture questions (due Jan 30 and Feb 28).
3. Provide feedback on two of your student colleagues' essays
4. Develop a 2 to 4 page research proposal in response to an agency request-for-proposal or pre-proposal (due March 13)

**SIO 275 Benthic Ecology. Lecture Schedule, Winter 2020, Wed,Fri 10:00 - 11:20 am**

**Readings including chapters from Bertness et al eds, 2nd Edition  
Marine Community Ecology and Conservation (MCEC), Krebs Ecological Methodology  
TBA research articles**

<b>Day</b>	<b>Date</b>	<b>Lecture Topics</b>	<b>Reading</b>
W	8-Jan	Intro, History, Current Topics in Benthic Ecology	Bertness Ch 1
F	10-Jan	Organisms and Life Cycles, Field Trip Dyke Rock	Bertness Ch 3, Field trip Low tide 15:20
W	15-Jan	Sampling and Experimental Design	Krebs Ch 1, Hairston Ch 1, Oksanen 2001
F	17-Jan	Natural History and Soft Bottoms (guest lecture Paul Dayton)	Dayton and Sala 2001, Bertness Ch 10
W	22-Jan	Physical Environments and Sampling	Bertness Ch 2
F	24-Jan	Ecomechanics and Disturbance	Denny and Gaylord 2010
W	29-Jan	Scale and Pattern, Fluctuations in Space and Time, Dispersal and Connectivity	MCEC Ch 4, Krebs Ch 6
F	30-Jan	Foundation Species, Biodiversity, Food Webs	Bertness Ch 3
W	5-Feb	Disturbance, Succession	Dayton 1974, Bertness Ch 6
F	7-Feb	Biogeography, Metapopulations, Macroecology, Positive Interactions	Bertness Ch 7, Witman eds
W	12-Feb	Behavior, Foraging, Historical Ecology	Bertness Ch 8
F	14-Feb	Competition, Predation, Diseases	Bertness Ch 5
W	19-Feb	<i>TBD Ocean Science Meeting San Diego</i>	<i>Proposal Assignments</i>
F	21-Feb	<i>TBD Ocean Science Meeting San Diego</i>	<i>Proposal Assignments</i>
W	26-Feb	Temperate hard substrates - rocky inter/sub tidal, and sediments	Bertness Ch 9
F	28-Feb	Kelp forest habitats and research (gues lecture Lydia Ladah)	Bertness Ch 14
W	4-Mar	Tropical habitats	MCEC Ch 12, 13
F	6-Mar	Polar Habitats (guest lecture Paul Dayton)	TBD
W	11-Mar	Restoration and Conservation Ecology	MCEC Ch 22, 23
F	13-Mar	Proposal Presentations	