

Note: The schedule is subject to change but all material will be covered

## Changing Coastal Oceans 2019 Syllabus

	<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
1	22 Jan	Introduction and course overview	Roberts
2	24 Jan	Primary Production and Respiration	Roberts
3	29 Jan	Nutrient Cycling and Eutrophication	Roberts
4	31 Jan	Changes in Coastal Habitat	Kolker
		<b>Quiz 1</b>	
5	5 Feb	Ecosystem Responses to Stress	Kolker
6	7 Feb	Coastal Wetland Change	Kolker
7	12 Feb	Microbial Biogeography	Bowles
8	14 Feb	Harmful Algal Blooms	Rabalais
		<b>Quiz 2</b>	
9	19 Feb	Hypoxia	Rabalais
10	21 Feb	Invasive Species	Rabalais
11	26 Feb	Pollution in the coastal ocean 1	Roberts
12	28 Feb	Pollution in the coastal ocean 2	Roberts
<b>***Midterm exam covers Lectures 1-12; posted 28 Feb; due by midnight 3 March***</b>			
13	12 Mar	Coastal Behavioral Ecology 1	Rieucou
14	14 Mar	Coastal Behavioral Ecology 2	Rieucou
15	19 Mar	Conservation Behavioral Ecology in Coastal Environments	Rieucou
16	21 Mar	Marine Fisheries	Bockus
		<b>Quiz 3</b>	
17	26 Mar	Coastal Species and their Habitats	Bockus
18	28 Mar	Organismal Responses to Stress	Bockus
<b>***Field Trip - LUMCON Marine Center: Friday evening – Sunday (29-31 March)***</b>			
19	2 Apr	Shallow and Deep Sea Benthos	McClain
20	4 Apr	Microbes living in environmental change	Bowles
		<b>Quiz 4</b>	
21	9 Apr	Global climate change and the coastal zone	Roberts
22	11 Apr	Ocean Acidification	Roberts
23	30 Apr	Microbes as indicators and agents of change through time	Bowles
24	1 May	Graduate Student presentations	Team

**Final Exam (Dates TBA) will cover lectures since the midterm (13-24) plus the fieldtrip.**

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**LUMCON Interactive Video Course with field trip**

**Title:** "Changing Coastal Ocean"

**Venue:** Offered by LUMCON faculty via GoToMeeting

**Credit:** Lecture (2.5 hrs per week) and 1 weekend field trip: 3 credits

**Level:** Offered as advanced undergraduate / graduate level Special Problems/Special Topics Course

**When:** Spring 2019, Tuesday and Thursday 11:00 am - 12:15 pm

**Instructors:** Roberts, Kolker, Rabalais, Bowles, Rieucan, Bockus, McClain

**Short Course Description:** Advanced topics in marine science focusing on the effects of human activities on the biology, chemistry, geology and ecology of coastal marine systems.

**Detailed Course Description:** Coastal oceans are among the most valuable and heavily impacted environments on earth. Human activities such as commercial and recreational fishing, water management, aquaculture, land development, shipping, and mineral exploitation have significant ecological effects on coastal environments. In addition, human activities that occur far inland affect coastal oceans through runoff and atmospheric deposition. In this course, faculty of the Louisiana Universities Marine Consortium will present a series of lectures on the effects of human activities on the chemistry, biology, geology, ecology and ecosystem structure and function within coastal marine environments. Topics describing recent changes in the coastal ocean and addressing their implications include: Primary productivity; Biogeochemistry; Coastal geology; Coastal fauna and habitat; Coastal fisheries; and Climate Change. The course includes a mandatory weekend field trip to LUMCON's DeFelice Marine Center in Cocodrie, where the instructors will use the local coastal environment to illustrate topics that have been discussed in lectures.

**Course Requirements:** Advanced undergraduate or graduate level with some background in science, or permission of the lead instructor (Roberts).