GEL/ESP 116: Oceanography

Winter 2017

Professor Tessa Hill
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tmhill@ucdavis.edu (but please use Piazza.com instead)

Objective: To investigate the field of oceanography, with emphasis on research techniques, current research questions, scientific approach, oceanographic data, and analytical skills. This course will focus on several "hot topics" rather than attempt to cover every topic in the field of oceanography, with particular emphasis on areas with policy implications.

What I expect from you, as students: To come prepared to class, having read assigned material; to participate in class projects, discussions, and presentations; to think critically about scientific questions; to delve into major questions in Oceanography using your background and expertise as a guide.

What you can expect from me, as your professor: To provide you with information on current oceanographic research; to prepare and present the necessary background information that you will need; to be available for questions and discussions both inside and outside of the classroom.

Class Schedule:

Lecture: Tu & Th, 12:10-1pm
Discussion Section (Required): Tuesdays, Wednesday, Thursdays
Fieldtrip: Saturday, March 4 (optional: to Bay Area location where we learn about submarines & ocean exploration)

Teaching Assistants:

Brady O'Donnell bcodonnell@ucdavis.edu
Carina Fish crfish@ucdavis.edu

Office Hours:

Professor Hill: *By appointment,* on Thursdays, EPS 1129
Brady O'Donnell: Wednesdays, 4-5pm, EPS 1309
Carina Fish: *Tuesdays*, 4-5pm, EPS 1119

Textbook/ Reading:

Weekly assigned readings from peer-reviewed journals (posted on Canvas)
Readings from two assigned books:
Silent Spring (Rachel Carson)
Sea Change (Sylvia Earle)

Online Class Discussions/ Questions
We will be using Piazza for class discussions and as a place to post questions. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email team@piazza.com.
Find our class page at: https://piazza.com/ucdavis/winter2017/gelesp116/home

To do well in the course, you need to participate fully and put your best effort into all assignments and in/out of class activities:

Class participation	15%
Group writing assignment (due Feb 20)	15%
Discussion section activities & participation	25%
Group presentation (in Discussion section)	15%
Mid Term Exam (in class)	15%
Final Exam (take home)	20%

	Lecture topic	Discussion topic	Book Reading
10-Jan	Introduction	Group Presentation Topics	Earle: Ch 1-3
12-Jan	Basics of ocean circulation		
17-Jan	Bio oce / nutrients/ productivity	Coral Reef Health	Earle: Ch 4,5
19-Jan	Marine Reserves; HAB events		
24-Jan	Ocean circulation (shallow)	ENSO	Earle: Ch 6-9
26-Jan	Ocean circulation (deep)		
31-Jan	Carbon cycle	Book discussions	Earle: Ch 10, 11
2-Feb	Ocean acidification		
7-Feb	Deepwater Horizon	*Mid Term Review*	Earle: Ch 12-14
9-Feb	Fukushima and plastic pollution		
14-Feb	Mid term (in class)	Harmful algal blooms	Earle: Ch 15-end
16-Feb	Sedimentary record of ocean history		
20-Feb	*DUE: Group Essay*		
21-Feb	Shallow water processes	Book discussion	Carson: Ch 1-4
23-Feb	Paleoclimate		
28-Feb	Deep sea environments	Artic sea ice	Carson: Ch 9, 17 + Afterword by EO WIlson
2-Mar	Science Communication		Wilson: Letters
4-Mar		FIELD TRIP!!	
7-Mar	Climate change	Group presentations	
9-Mar	Marine Policy		
14-Mar	TAKE HOME FINAL	Group presentations	
16-Mar	no class!		

Lectures in this class will cover both general topics (in black) and focus on current topics in Oceanography (in blue)