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Office Hours: Friday 11:00-12:00

Course Description: This course provides an introduction to both Chemical and Biological Oceanography, and emphasizes the linkages between chemical and biological processes in the ocean. Chemical oceanography, covered in the first part of the class, deals with the distribution of salts, gases, and nutrients in the ocean and the processes that generate these distributions. The second half of the class, on biological oceanography, begins with a study of the ecology and biogeochemistry of the open ocean, which covers much of the planet. After that, the focus will move to coastal regions where several distinct ecosystems exist (estuaries, coral reefs, salt marshes) with unique biogeochemical features.

Class Times: Monday, Wednesday, Friday 10:10-11:00, Marine Sciences Rm 239

Readings: “An Introduction to Marine Biogeochemistry”, Susan Libes, 1st Edition (John Wiley & Sons, Inc), or 2nd Edition (Academic Press)
 “Biological Oceanography: An Introduction”, C. Lalli and T. Parsons, Elsevier, 1997 (2nd Edition)

Grading:

Exam 1	15%
Exam 2	20%
Exam 3	15%
Exam 4 (Final)	20%
Problem Sets	20%
General Participation	10%

Schedule of Classes

Date	Class #	Topic	Professor
8/13/2012	1	Introduction	Sun
8/15/2012	2	Water properties and cycling	Sun
8/17/2012	3	Major components of seawater	Sun
8/20/2012	4	Minor components of seawater	Sun
8/22/2012	5	Ionic interaction (homework-I)	Sun
8/24/2012	6	Dissolved gases and air-sea exchange	Sun
8/27/2012	7	Land-sea margin	Sun
8/29/2012	8	Marine sediments	Sun
8/31/2012	9	Class review for Exam I	Sun
9/3/2012		<i>Labor day (no class)</i>	
9/5/2012	10	Exam-I	Sun
9/7/2012	11	Redox chemistry I	Sun

9/10/2012	12	Redox chemistry II (homework II)	Sun
9/12/2012	13	Carbonate system I	Sun
9/14/2012	14	Carbonate system II	Sun
9/17/2012	15	Organic matter I (homework III)	Sun
9/19/2012	16	Organic matter II	Sun
9/21/2012	17	Nutrients I	Sun
9/24/2012	18	Nutrients II	Sun
9/26/2012	19	Radioisotopes I	Sun
9/28/2012	20	Radioisotopes II	Sun
10/1/2012	21	Stable isotopes	Sun
10/3/2012	22	Class review for Midterm Exam	Sun
10/5/2012	23	Midterm exam	Sun
10/8/2012	24	Biological overview	BH
10/10/2012	25	Physical environment	BH
10/12/2012	26	Light in the ocean	BH
10/15/2012	27	Phytoplankton	BH
10/17/2012	28	Primary Production I	BH
10/19/2012	29	Primary Production II	BH
10/22/2012	30	Molecular Methods	BH
10/24/2012	31	Microbes and Viruses	BH
10/26/2012		<i>Fall Break</i>	BH
10/29/2012	32	Review for Exam III	BH
10/31/2012	33	Exam III	BH
11/2/2012	34	Zooplankton/Secondary Production	BH
11/5/2012	35	Pelagic Food Webs	BH
11/7/2012	36	Pelagic Elemental Cycles	BH
11/9/2012	37	Tying it all together: Pelagic Time Series	BH
11/12/2012	38	Fisheries	BH
11/14/2012	39	Estuaries	BH
11/16/2012	40	Estuarine Biogeochemistry	BH
11/19/2012		<i>Thanksgiving</i>	
11/21/2012		<i>Thanksgiving</i>	
11/23/2012		<i>Thanksgiving</i>	
11/26/2012	41	Benthic Ecosystems	BH
11/28/2012	42	Polar Oceans	BH
11/30/2012	43	Coral Reefs	BH
12/3/2012	44	Ocean acidification and Climate Change	BH
12/4/2012 *	45	Review for Exam IV	BH
Friday Schedule			
12/7/2012	Final	Exam IV during final time slot, 8:00-11:00AM on 12/7/2011	BH

Academic Policy

All academic work must meet the standards contained in *A Culture of Honesty*. Students are responsible for informing themselves about those standards before performing any academic work.