

# Course title: SIO 101 California Coastal Oceanography

**Description:** This interdisciplinary course emphasizes the oceanographic connections between physical and climate forcing and marine ecosystem responses using examples from and activities in the California coastal environment. The approach is inquiry-based, combining classroom and experiential learning to build critical and quantitative thinking and research insights and abilities. Part of the UCSD undergraduate minor in Oceanography.

**Instructors:** Lihini L. Aluwihare (Asst Prof, Marine Geochemistry), Myrl Hendershott (Prof, Physical Oceanography), Michael R. Landry (Prof, Biological Oceanography)

**Lecture Topics:** Lectures will be designed to provide an integrated, interdisciplinary overview of the interaction of physical, geochemical and biological concepts and processes in the coastal environment with an emphasis on understanding the implications of climate-induced variability.

## **SIO 101: California Coastal Oceanography. Spring Quarter 2007**

**Instructors:** Lihini I. Aluwihare (SIO, VN302; 2-4886; [luuwihare@ucsd.edu](mailto:luuwihare@ucsd.edu))  
Myrl C. Hendershott (SIO; [mhendershott@ucsd.edu](mailto:mhendershott@ucsd.edu))  
Mike Landry (SIO; [mlandry@ucsd.edu](mailto:mlandry@ucsd.edu))

**Lectures:** TuTh: 2-3:20 (HSS 1106A)

**Labs** Wed: 2-5 pm (SIO - Ritter 229)

**Requirements:** Class attendance/participation, weekly problem sets/essay questions, and an oral and written report of an investigative project (projects will be assigned in early May).

**Electronic Reserves:** Class notes, readings, syllabus, laboratory methods etc will be available on e-reserves through the **Science and Engineering Library**. Search SIO as the department.

April 3 <sup>rd</sup>	<b>Ways to observe ocean currents, water properties (MCH)</b>
April 4 <sup>th</sup>	LAB: DENSITY, PRESSURE etc. (MCH)
April 5 <sup>th</sup>	<b>Physical Oceanography: Why water moves (MCH)</b>
April 10 <sup>th</sup>	<b>Chemistry of seawater (LIA)</b>
April 11 <sup>th</sup>	Chlorinity lab
April 12 <sup>th</sup>	<b>Cycles of carbon, nitrogen and phosphorus (LIA)</b>
April 17 <sup>th</sup>	<b>Physical oceanography of the Pacific (MCH)</b>
April 18 <sup>th</sup>	Measuring DIC, pH and O <sub>2</sub> /ODF will also demonstrate nutrient measurements
April 19 <sup>th</sup>	<b>Ocean-wide and region-specific nutrient distributions, incl. Redfield concept (LIA)</b>
April 24 <sup>th</sup>	<b>California Current (CC) circulation (MCH)</b>
April 25 <sup>th</sup>	Lecture on Fe in the N. Pacific/Phytoplankton Lab
April 26 <sup>th</sup>	<b>Organic matter production/export/recycling, including data from San Pedro Ocean Time Series (LIA)</b>
May 1 <sup>st</sup>	<b>Zooplankton life histories in the CC (ML)</b>
May 2 <sup>nd</sup>	ZOOPLANKTON LAB
May 3 <sup>rd</sup>	<b>Plankton food web interactions (ML)</b>
May 8 <sup>th</sup>	<b>Use of tracers to study chemical and biological transformations in the CC. (LIA)</b>
May 9 <sup>th</sup> -	Pigment Lab and Mati Kahru on Satellite Oceanography
May 10 <sup>th</sup>	<b>Red tides and harmful algal blooms (ML)</b>
May 15 <sup>th</sup>	<b>Upwelling and coastal eddies (MCH)</b>
May 16 <sup>th</sup>	Pt. Conception Data (MCH)
May 17 <sup>th</sup>	<b>California pelagic fisheries (ML)</b>
May 22 <sup>nd</sup>	<b>California benthic marine resources (ML)</b>
May 23 <sup>rd</sup>	Kelp Ecosystems
May 24 <sup>th</sup>	<b>Lisa Levin on Coastal benthic ecosystems</b>
May 29 <sup>th</sup>	<b>Waves/Nearshore internal waves (MCH)</b>
May 30 <sup>th</sup>	Melissa Sodevilla on Marine Mammals
May 31 <sup>st</sup>	<b>Climate change and the CC (LIA/MCH)</b>
June 5 <sup>th</sup>	<b>Climate change and ecosystems (ML)</b>
June 6 <sup>th</sup> & 7 <sup>th</sup>	<i>Student Presentations</i>