

Living Oceans and Global Climate Change 2009 Syllabus

Cluster team: Prof. Joel Norris (lead instructor)
Dr. Ngai Chin Lai (co-instructor)
Dr. Guillermo Auad (co-instructor)
Mr. Randall Conrad (teacher fellow)
Ms. Kim Vande (cluster assistant)
Mr. Jack Buchanan (cluster assistant)

Cluster website: <http://meteora.ucsd.edu/~jnorris/cosmos/cosmos.html>

Schedule

Sun Jul 5 3:30-4:30	Parent Q&A Peterson 104 (Norris and Lai)
Mon Jul 6 8:30-9:30	Safety training (Center Hall 119)
Mon Jul 6 morn (Lai)	Topic: Marine biodiversity and the environment I Activity: Pier Visit and standard weight and measures
Mon Jul 6 aft (Norris)	Topic: Global warming and the scientific method Activity: "An Inconvenient Truth"
Wed Jul 8 morn (Lai)	Topic: Marine biodiversity and the environment II Activity: Pier visit part II
Wed Jul 8 aft (Norris)	Topic: Global warming and climate change Activity: Statistical significance and trends
Fri Jul 10 morn (Lai)	Topic: Intertidal ecosystem Activity: Intertidal field trip I
Fri Jul 10 aft (Norris)	Topic: Introduction to electromagnetic radiation Activity: Satellite images
Mon Jul 13 morn (Auad)	Topic: Overview of climate change Activity: Round table: The Global Warming debate: is there one?
Mon Jul 13 aft (Auad)	How do scientists study climate change? Activity: Matlab diffusion equation
Tues Jul 14 aft	Field Trip: Aquarium (Lai)
Wed Jul 15 morn (Lai)	Topic: Coastal marsh ecosystem Activity: Temperature and oxygen production with water weeds
Wed Jul 15 aft (Auad)	Topic: Dynamical and statistical forecasting Activity: Matlab statistical forecasting
Thur Jul 16 8:30-9:30	Cluster Exploration Session Solis 107 (Lai and Auad)
Thur Jul 16 aft	Field trip: Hydrolab tour (Auad)
Fri Jul 17 morn (Auad)	Topic: Different types of climate change Activity: Global warming roundtable discussion
Fri Jul 17 aft (Norris)	Topic: Albedo and greenhouse effect Activity: Thermometer in a jar
Mon Jul 20 morn (Lai)	Topic: Near-shore ecosystem Activity: Fish identification and dissection
Mon Jul 20 aft (Norris)	Topic: Mathematical model of climate Activity: Excel model

Tues Jul 21 aft	Field trip: Beach seine (Lai)
Wed Jul 22 morn (Lai)	Topic: Deep sea ecosystem Activity: Invertebrate identification and dissection
Wed Jul 22 aft (Auad)	Topic: Ocean mixing Activity: Mixing in jars
Fri Jul 24 morn (Auad)	Topic: Global warming adaption and ethics Activity: Course projects
Fri Jul 24 aft (Norris)	Topic: Global warming and the hydrological cycle Activity: condensation on ice pack
Mon Jul 27 morn (Lai)	Topic: Marine planktonic system Activity: Effects of acidification on oxygen consumption
Mon Jul 27 aft (Norris)	Topic: Global dimming and brightening Activity: Cloud in a jar
Wed Jul 29 morn (Lai)	Topic: Food web Activity: Intertidal visit II
Wed Jul 29 aft (Auad)	Topic: Climate change impact on ecosystems Activity: Course projects
Fri Jul 31 morn	Panel discussion
Fri Jul 31 aft	Student presentations
Sat Aug 1 8:30-11:00	Closing day Price Center (Norris, Lai, Auad)