

SIO 280 Fall 2016 Peter Franks

MWF 10:00 - 10:50 am

Grading: L

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| Sept. 23 | Introduction | Description of BO, intro to food-web model |
| Sept. 26 | Phytoplankton I | Description of organisms, sampling, counting, measuring |
| Sept. 28 | Phytoplankton II | Photosynthesis, PI curves |
| Sept. 30 | Phytoplankton III | Underwater light field, pigments, vertical distribution |
| Oct. 3 | Phytoplankton IV | Remote sensing - pigments |
| Oct. 5 | Phytoplankton V | Remote sensing - primary productivity |
| Oct. 7 | Nutrients | Description of macro nutrient, nutrient distributions, basic dynamics, distributions, Redfield ratios |
| Oct.10 | Nitrogen | Uptake kinetics, growth rate, competition, nutrient pulsing/community structure |
| Oct. 12 | Bacteria | Description, bacterial carbon demand, role in ecosystem |
| Oct. 14 | Biological Pump | New, recycled production, <i>f</i> ratios, <i>e</i> ratios, OUR |
| Oct. 17 | Microzooplankton I | Description, measurements, size fractions, dynamics |
| Oct. 19 | Microzooplankton II | Microbial loop, recycling, planktonic ecosystem structure |
| Oct. 21 | Metazoan Zooplankton | Description of organisms, sampling |
| Oct. 24 | Copepods | Description, life cycle, grazing |
| Oct. 26 | AR-1 Models | Acclimation, adaptation, response to climate change |
| Oct. 28 | Midterm Exam | |

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| Oct. 31 | Environmental Control I | Spring bloom, vertical mixing, seasonal cycles in Atlantic, Pacific |
| Nov. 2 | Environmental Control II | Iron Limitation |
| Nov. 4 | Ecosystem Based Management | Paul Dayton |
| Nov. 5 or 6 | Cruise on R/V Sproul | |
| Nov. 7 | Wetlands, Seagrasses | Zonation, adaptations to physical stressors of an ecotone |
| Nov. 9 | Rocky Intertidal | Competition, facilitation, niche space, diversity maintenance |
| Nov. 11 | Holiday | |
| Nov. 13 | Rocky Intertidal Field Trip | Cabrillo National Monument, low tide ~2:00 pm. |
| Nov. 14 | Kelp Forests | Stability vs Disturbance / Intermediate Disturbance Hypothesis, biogeography, influence of oceanography |
| Nov. 16 | Coral Reefs | Functional redundancy, diversity, phase shift, pelagic input, inverted trophic biomass pyramid |
| Nov. 18 | Deep Sea I | History of exploration, physical environment |
| Nov. 21 | Deep Sea II | Adaptations to pressure, pulses of resources, connectivity of habitats |
| Nov. 23 | Fisheries | Cisco Werner, Director NOAA SWFSC |
| Nov. 25 | Thanksgiving | |
| Nov. 28 | Climate Change | Causes, consequences |
| Nov. 30 | Class Project Due | Project Discussion |
| Dec. 2 | | Project Discussion |
| Dec. 5 | Final Exam | Date will probably change based on class input. |
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