

EOSC_372: Introductory Oceanography: Circulation and Plankton

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This file is a summary of the EOSC_372 course materials.

Lecture Notes

Topic	Title	Description	Files
Why Study Oceanography	1.1 Introduction		1.1 introduction.pdf
Why Study Oceanography	1.2 Course Goals	In this lecture all the terminology used in the course learning goals is explained	1.2 course goals.pdf
What is Seawater? What are Phytoplankton?	2.1 Seawater and Carbon		2.1 seawater and carbon.pdf
What is Seawater? What are Phytoplankton?	2.2 Diatoms and Dinoflagellates		2.2 diatoms and dinoflagellates.pdf
What is Seawater? What are Phytoplankton?	2.3 Coccolithophorids and Cyanobacteria		2.3 coccolithophorids and cyanobacteria.pdf
What is Seawater? What are Phytoplankton?	2.4 Photosynthesis and Respiration		2.4 photosynthesis and respiration.pdf
What is Seawater? What are Phytoplankton?	2.5 Hydrological Cycle		2.5 hydrological cycle.pdf
What is Seawater? What are Phytoplankton?	2.6 Residence Time		2.6 residence time.pdf
Light Availability for Phytoplankton	3.1 Light, Albedo and K		3.1 light, albedo and k.pdf
Light Availability for Phytoplankton	3.2 Pigments and Light		3.2 pigments and light.pdf
Light Availability for Phytoplankton	Stratification and Pressure		3.3 stratification and pressure.pdf

Light Availability for Phytoplankton	3.4 Two-Layer Models		3.4 two-layer models.pdf
Light Availability for Phytoplankton	3.5 Mixing		3.5 mixing.pdf
Light Availability for Phytoplankton	3.6 Light and PI Curves		3.6 light and pi curves.pdf
Light Availability for Phytoplankton	3.7 Critical Depth		3.7 critical depth.pdf
Basic Forces and Tides	4.1 Coriolis Force		4.1 coriolis force.pdf
Basic Forces and Tides	4.2 Geostrophy		4.2 geostrophy.pdf
Basic Forces and Tides	4.3 Tides		4.3 tides.pdf
Basic Forces and Tides	4.4 Real Tides and Tidal Mixing		4.4 real tides and tidal mixing.pdf
Nutrients and Nutrient Cycles	5.1 Nutrients		5.1 nutrients.pdf
Nutrients and Nutrient Cycles	5.2 Two-Layer Models (Chemistry)		5.2 two-layer models (chemistry).pdf
Nutrients and Nutrient Cycles	5.3 The Nitrogen Cycle		5.3 the nitrogen cycle.pdf
Nutrients and Nutrient Cycles	5.4 Redfield Ratio and Nutrient Mixing		5.4 redfield ratio and nutrient mixing.pdf
Nutrients and Nutrient Cycles	5.5 N^*		5.5 n_star.pdf
Vertical Transport and the use of Nutrients	6.1 Winds		6.1 winds.pdf
Vertical Transport and the use of Nutrients	6.2 Ekman Layers		6.2 ekman layers.pdf
Vertical Transport and the use of Nutrients	6.3 Ekman Pumping		6.3 ekman pumping.pdf
Vertical Transport and the use of Nutrients	6.4 Wind Driven Currents		6.4 wind driven currents.pdf
Vertical Transport and the use of Nutrients	6.5 Macronutrient Control on Global Productivity		6.5 macronutrient control on global productivity.pdf
Vertical Transport and the use of Nutrients	6.6 Uptake Kinetics, Phytoplankton Size Structure and Paradox		6.6 uptake kinetics, phytoplankton size-structure and paradox.pdf
Vertical Transport and the use of	6.7 Iron Limitation		6.7 iron limitation.pdf

Nutrients			
Examples	7.1 West Coast of Vancouver Island		7.1 west coast of vancouver island.pdf
Examples	7.2 Equatorial Region		7.2 equatorial region.pdf
Examples	7.2 Equatorial Region		7.2 equatorial region.pdf
Examples	7.1 West Coast of Vancouver Island		7.1 west coast of vancouver island.pdf

Assignments or Homework

Topic	Title	Description	Comment on use	Files
Why Study Oceanography	Assignment 1.1	In this course students are required to look at lots of maps. Students often have trouble because the maps are centered on the ocean, rather than the land. This assignment happens after the first class of the semester so students become familiar identifying common geographical places used in this course on oceanographic maps.	Associated with quiz 1.1	assignment 1.1.pdf
Why Study Oceanography	Assignment 1.2	<p>This course has hard pre-requisites and assumes students have a basic understanding of high school and first year Math, Physics, Biology and Chemistry. In this assignment students are given a list of pre-requisite learning goals (a list of required knowledge to succeed in this course). They are also provided with appropriate review materials. Once students feel confident with the pre- requisite learning goals they can test their knowledge with quiz</p> <p>1.2. Quiz 1.2 than opens as a self-test and students can test themselves as many time as they like with a</p>	Associated with quiz 1.2	assignment 1.2.pdf, assign1.2_calculus review.pdf, assignn 1.2_stoichiometry review.doc, assign 1.2_ wave review.pdf

		database of questions.		
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