Winter Session 2011 – Oceanography in Argentina GEOL 383.82 / PGEOG 701.83 - 3 credits

Location:Mar del Plata and Puerto Madryn, ArgentinaDates:January 3, 2011 – January 23, 2011

General Description

http://www.hunter.cuny.edu/educationabroad/winter_11/oceanography.shtml

Academic Inquiries

Instructor:	Haydee Salmun
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Office & Phone	Room 1041 Hunter North – (212) 774-5224

* *Please note*: the best way to contact me is via email.

Lecture hours: Mondays through Fridays, 10 am – 1 pm There will be time set for local field visits and practical discussions

Field Trips, Special Topics and Discussions: Afternoon Hours, 3 times a week (first 2 weeks, all days of last week)

Administrative Inquiries:

Education Abroad Office E1447, Monday - Friday 9:30 am - 5:30pm Phone: (212) 772-4983 Fax: (212) 772-5005 E-Mail: edabroad@hunter.cuny.edu

Course Prerequisite: This course is open to all Hunter College (as well as all other CUNY colleges) students that have completed at least two years of their studies. Although a science background is not required it is assumed that all students taking this class have taken and passed the basic science requirements at CUNY.

<u>Course Description</u>: This course will offer an introduction to the fascinating and complex subject of Oceanography and major aspects of the Southern Ocean. We will discuss physical, chemical, biological and geological aspects of the Southern Ocean in general and we will learn about the structure and motion of the atmosphere that influence ocean circulation. We will discuss waves and tides and how these and other features of the ocean shape the coasts and beaches that we will visit. A large part of this course will focus on learning more about current topics related to the Southern Ocean, and we will do all that 'on location'! As a brief introduction, we offer the short summary below:

The Southern Ocean, also known as the Antarctic Ocean, was designated the world's fifth ocean in the year 2000, by the International Hydrographic Organization (IHO). Comprised of waters that were once officially designated as the southern sections of the Atlantic, Pacific and Indian Oceans, the Southern Ocean surrounds Antarctica and extends north to the 60°S Parallel. The Southern

Ocean is the world's fourth largest ocean, exceeding the area of the Arctic Ocean by over 2,400,000 square miles. Though officially demarcated by the 68-nation IHO, the Southern Ocean is not universally accepted; holdouts include the National Geographic Society and the nation of Argentina.

Fast Facts

- Was not defined until 2000
- Surrounds Antarctica
- Youngest of the oceans at 30 million years
- Over 23,000 feet deep at South Sandwich Trench
- Over 7 million square miles
- Fed by melting glaciers
- Thought to sit above large oil fields

There will NOT be a Required Text for this course. It is strongly recommended that students familiarize themselves with basic oceanography by accessing any introductory level textbook, such as *An Introduction to the World's Oceans*, Sverdrup, K. A., A. C. Duxbury and A. B. Duxbury, 2003, McGraw Hill, *Oceanography – CUNY, Hunter College*, Garrison, T., 2007, Thomson, or any other elementary level textbook.

A list of reading materials will be made available to you before leaving Hunter College.

Keep in mind: This is a science-base course and it will require that students learn to understand physical, and some quantitative, concepts. It requires that students keep in mind that 'everything relates to everything else' and that information need to be analyzed and synthesized, not simply memorized.

<u>Academic Dishonesty</u>: Please be advised that plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations.

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

See the following report by the Hunter College Senate for more details: <u>http://www.hunter.cuny.edu/senate/assets/Documents/Hunter%20College%20Policy%20on%20</u> <u>Academic%20Integrity.pdf</u>

Grades: Grades are based on two progress evaluations and a final.

Grading is as follows: 90-100=A; 80-89=B; 70-79=C; 60-69=D; <60=F.

Exams: The progress evaluations and final exam will be based on the material covered in class, visits and field trips.

Attendance: Participation in all instructional activities, site visits and field trips is mandatory, in accordance to the policies of Hunter College for Winter Sessions Courses. When attendance is not possible due to illness or other causes, students MUST contact the professor and show proof for the reason of the absence.

Homework: There are no set homeworks for this course. There will occasions for the professor to assign work after lectures, discussions and field trips and you are expected to complete them, which will reflect positively on your final grade.



Winter Session 2011 – Oceanography in Argentina GEOL 383.82 / PGEOG 701.83 - 3 credits <u>Tentative</u> Schedule of Lectures and Activities

SO = Southern Ocean; MdeP = Mar del Plata

First Day – Monday, January 3								
Evening: first meeting at hotel. Welcome & Orientation – General Introduction & Overview								
Week 1	Monday 1/3	Tuesday 1/4	Wednesday 1/5	Thursday 1/6	Friday 1/7	Saturday 1/8		
am		• The SO and Climate	Ocean structure	• Atmosphere &	Ocean circulation	Practicum: group		
		 Ocean structure 	 Deep water 	Ocean	 Ocean chemistry 	discussion		
		• Thermohaline	formation	• Winds, currents,	• CO ₂ & O ₂			
		circulation	• The SO and	gyres	Review	Evaluation I		
			Climate: is SO a	Ocean chemistry				
			CO_2 sink?					
pm	Arrival &	Assignment: make	Practicum:		Field Trip – Site			
	orientation	observations and	Group discussion.		Visit: TBA			
		develop a question	_					
Week 2	Monday 1/10	Tuesday 1/11	Wednesday 1/12	Thursday 1/13	Friday 1/14	Saturday 1/15		
am	• Review of		• CO ₂ and climate –	• Winds & waves	Guest Lecture – at	Evaluation II		
	Dynamics of		SO and sink for	• Wave dynamics	INIDEP			
	currents, Ekman		CO_2	Tsunamis		End of formal		
	CO ₂ and climate					instruction in MdP		
pm	Practicum:			Practicum:	Practicum: group			
-	Site visit - TBA			Guest Lecture – at	discussion &			
				INIDEP	Review			
Sunday, 16 January: Leave to Buenos Aires (air), Fly to Trelew, arrive hotel in Pto Madryn								
Week 3	Monday 1/17	Tuesday 1/18	Wednesday 1/19	Thursday 1/20	Friday 1/21	Saturday 1/22		
am	Peninsula Valdes	Reserve Punta Loma	Punta Tambo-	Visit to University	Free day	Transfer Trelew –		
	w/boat tour	& City Tour	Rawson-Playa	& Maritime		Buenos Aires		
	ALL DAY		Union	Museum		Course ends today		
pm		Practicum: Group		Final Evaluation	Social end-term	Leave for US		
		discussion		projects and	event	evening flights		
				presentations				