

MEES6080: Dispersion, degradation, and ecosystem effects of oil in the marine environment

Time: Fall, 2010, Fridays, 2:00 - 3: 00 pm

Instructors: Michael Roman, James Pierson, Elizabeth North

Objective: This seminar focuses on dispersion, degradation, and ecosystem effects of oil in the marine environment, with special emphasis on the Deepwater Horizon (DH) spill in the Gulf of Mexico. The intent is 1) to provide an interdisciplinary perspective and general background on oil in the marine environment, its fate and transport, and impacts on living marine resources, and 2) to introduce and discuss the latest results of the scientific assessment of the DH spill as they are published in the context of ongoing public policy debates. Readings will include reviews, articles in the peer-reviewed press, government publications, news articles, internet blogs, and recent Science and Nature papers. The first class will meet on Sept. 10 because Drs. Roman and Pierson are on a research cruise in the Gulf of Mexico, assessing the impacts of the DH spill on the Gulf Mexico "dead zone" and the marine organisms near it. If students are interested, the challenges of coordinating and conducting research in the Gulf also will be discussed. Students will be expected to participate in discussions and make one presentation and/or lead one debate.

Schedule and Assignments

Week	Mon	Day	Topic	Instructor	Lecture/Discussion Leader
1	Sept	3	No class: on-line interactions		
2		10	A brief history of oil spills	Roman	Roman
3		17	Anatomy of an oil spill: where does the oil go?	North	North
4		24	MEES COLLOQUIM		
5	Oct	1	Oil and microbes: degradation	Pierson (Crump)	Allen, Ammar
6		8	Oil and microbes: remediation	Pierson	Jia, Meyer
7		15	Effects of oil and dispersed oil on organisms	Pierson	Pierson
8		22	Impacts on phytoplankton	Roman	Swerida
9		29	Impacts on zooplankton	Roman	Schaffer, Walsh
10	Nov	5	Impacts on marshes and large marine animals	Pierson	Christenson, Lazarus
11		12	Impacts on fish and benthos	North	Marshall, Bosch
12		19	Integrated impacts on the ecosystem	North	Young
13		26	THANKSGIVING		
14	Dec	3	Where is the DH oil? Debate	Roman	Lee, Li
15		10	Is dilution the solution to pollution? Science and public policy	North (Boesch)	Barth