

**OCN 330 / ORE 330**  
**Fall 2007**  
**Mineral & Energy Resources of the Sea**  
**T-Th ♦ 10:30-11:45 am ♦ MSB 315**

**COURSE SYLLABUS<sup>†</sup>**

Instructors:	John C. Wiltshire (JW)	johnw@soest.hawaii.edu	Ph: 956-6042, MSB 319 (ofc hrs by appt)
	Gary M. McMurtry (GM)	garym@soest.hawaii.edu	Ph: 956-6858, MSB 325 (ofc hrs by appt)
	Rachel Orange (RO)	Guest lecturer - Thurs, Sept 20	

AUG 21	Introduction to course	GM
23	Undersea technology	JW
28	Oil and gas deposits; Future oil provinces	JW
30	Oil and gas: Resources and politics of oil and gas; Oil spills and oil spill recovery	JW
SEPT 4	Fresh water and desalination	JW
6	Introduction to ferromanganese nodules and crusts; Mining technologies for nodules and crusts	JW
11	Marine minerals development - Legal and environmental issues	JW
13	Manganese crusts and nodules as possible economic deposits	JW
18	World metal markets	JW
20	Introduction to hydrothermal deposits and submersibles	RO
25	Mid-ocean ridges, basins and trenches	GM
27	Chemistry of hydrothermal vents and polymetallic sulfides	GM
OCT 2	Formation processes of polymetallic sulfides (PMS) on the ocean floor: Geology of the smoker and PMS	GM
4	PMS deposits: from smoker to an ore body	GM
9	Continental PMS deposits in Cyprus and Canada - Their oceanic origins, ophiolites	GM
11	Japanese Kuroko deposits and PMS of the western Pacific back-arc basins	GM

**CONTINUED on REVERSE**

<sup>†</sup> *Subject to change without notice*

OCT 16	Case studies of ocean floor deposits - Explorer Ridge, North Fiji Basin	GM
18	Case studies on the ocean floor: The Red Sea	GM
23	*** MIDTERM EXAMINATION ***	GM
25	Geology of ferromanganese crusts	GM
30	Chemistry of crusts and chemical variability with age	GM
NOV 1	Platinum and phosphorite-rich layers: Seawater vs. extraterrestrial sources	GM
6	Phosphorites	GM
8	Placer deposits	GM
13	Introduction to ocean energy	JW
15	Methane hydrates	JW
20	OTEC (Ocean thermal energy conversion)	JW
22	*** THANKSGIVING HOLIDAY ***	
27	Wind power	JW
29	Wave power	JW
DEC 4	Current and tidal power	JW
6	Energy futures, hydrogen, fuel cells	*** LAST DAY OF CLASSES *** JW

**Thurs DEC 13 9:45 am - 11:45 am, MSB 315 \*\*\* FINAL EXAMINATION \*\*\***

Distribution of Grade Points:	Homework Assignments	20%
	Mid-Term Exam	40%
	Final Exam	40%

*Have a Safe & Happy Holiday Break!*