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

COURSE SYLLABUS

<table>
<thead>
<tr>
<th>Instructors:</th>
<th>John C. Wiltshire (JW)</th>
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<th>Ph: 956-6042, MSB 319 (ofc hrs by appt)</th>
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<tr>
<td></td>
<td>Gary M. McMurtry (GM)</td>
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<td>Rachel Orange (RO)</td>
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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

† Subject to change without notice
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Instructor</th>
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<tr>
<td>OCT 16</td>
<td>Case studies of ocean floor deposits - Explorer Ridge, North Fiji Basin</td>
<td>GM</td>
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<tr>
<td>18</td>
<td>Case studies on the ocean floor: The Red Sea</td>
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<td>23</td>
<td>*** MIDTERM EXAMINATION ***</td>
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<tr>
<td>25</td>
<td>Geology of ferromanganese crusts</td>
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<td>30</td>
<td>Chemistry of crusts and chemical variability with age</td>
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<td>NOV 1</td>
<td>Platinum and phosphorite-rich layers: Seawater vs. extraterrestrial sources</td>
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<td>6</td>
<td>Phosphorites</td>
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<td>8</td>
<td>Placer deposits</td>
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<tr>
<td>13</td>
<td>Introduction to ocean energy</td>
<td>JW</td>
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<td>15</td>
<td>Methane hydrates</td>
<td>JW</td>
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<tr>
<td>20</td>
<td>OTEC (Ocean thermal energy conversion)</td>
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<td>22</td>
<td>*** THANKSGIVING HOLIDAY ***</td>
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<tr>
<td>27</td>
<td>Wind power</td>
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<td>29</td>
<td>Wave power</td>
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<td>DEC 4</td>
<td>Current and tidal power</td>
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<td>6</td>
<td>Energy futures, hydrogen, fuel cells</td>
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**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!*

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