

Course Name	Intermediate: Introduction to Marine Science								
Semester, Year	Second Semester, 2018	Number of Credits	2 credits						
Course level	1000	Course Number	27106						
Instructor(s) (Institution)	BOWER John Richard (大学院水産科学研究院)								
Course Objectives	<p>The world's ocean is critically important to the people of Japan both as a supply of food and for its role in regulating the climate. In this course, I will give a clear, current and comprehensive overview of the ocean focusing on different areas of study, including astronomy (天文学), biology (生物学), chemistry (化学), ecology (生態学), fisheries (漁業), geology (地質学), history (史学), marine resources (海洋資源), meteorology (気象学), and oceanography (海洋学).</p> <p>My goal is to create a learning environment where students tackle questions they are interested in, think critically, and learn to reason from evidence. Student involvement will be important. You will not be asked to listen and remember facts. Rather you will be expected to analyze, understand, and evaluate evidence and conclusions.</p> <p>Students will be encouraged to provide regular input on how they are experiencing the course throughout the semester.</p>								
Course Goals	<p>In this course, you will have a chance to explore some of the exciting research now being done on the world's ocean. By the end of the course, you should be able to recognize how the ocean influences your daily life, communicate about the ocean in a meaningful way, and make informed and responsible decisions regarding the ocean and its resources.</p> <p>Students completing the course should be able to demonstrate the following competencies:</p> <ul style="list-style-type: none"> <li>• A development of the conceptual basis needed to understand how the ocean works,</li> <li>• An understanding and appreciation of the ocean's role in human societies, and</li> <li>• An ability to communicate clearly in written reports and an oral presentation.</li> </ul>								
Course Schedule	<ol style="list-style-type: none"> <li>1. An ocean world (海の世界)</li> <li>2. Earth structure and plate tectonics (地球構造とプレートテクトニクス)</li> <li>3. Continental margins and ocean basins (大陸縁辺部と海盆)</li> <li>4. Sediment (堆積物)</li> <li>5. Water and ocean structure (海水と海洋構造)</li> <li>6. Ocean chemistry (海洋化学)</li> <li>7. Circulation of the atmosphere (大気の循環)</li> <li>8. Circulation of the ocean (海洋循環)</li> <li>9. Waves and tides (波と潮)</li> <li>10. Life in the ocean (海の生活)</li> <li>11. Plankton, algae and plants (プランクトン、海藻、および植物)</li> <li>12. Food security and fisheries (食糧安全保障と漁場)</li> <li>13. Climate change (気候変動)</li> <li>14. Introduction to the cephalopods (頭足類入門)</li> <li>15. Oral presentations (発表会)</li> </ol>								
Homework	The course will involve lectures and small-group discussions in the classroom, as well as investigating topics and writing four reports outside of class. Students will also get experience preparing and giving an oral presentation in English.								
Grading System	<p>To evaluate your progress in reaching the course goals (and to provide you with feedback on your learning), I will look at the following:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">1) Four written reports (報告書)</td> <td style="width: 50%;">20% each of final grade</td> </tr> <tr> <td>2) Attendance (出席)</td> <td>10% of final grade</td> </tr> <tr> <td>3) Oral presentation (発表)</td> <td>10% of final grade</td> </tr> </table> <p>Final grades will be determined using the following scale: 95-100%, A+; 90-94%, A, 85-89%, A-; 80-84%, B+; 75-79%, B; 70-74%, B-; 65-69%, C+; 60-64%, C; 50-59%, D; 0-49%, D-; 評価なし, F</p>			1) Four written reports (報告書)	20% each of final grade	2) Attendance (出席)	10% of final grade	3) Oral presentation (発表)	10% of final grade
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Textbooks / Reading List									
Websites									
Website of Laboratory									
Additional Information	<p>Much of the lectures will be based on materials in "Oceanography: An Invitation to Marine Science" (Brooks Cole, 9th ed., ISBN-10:1305105168) by Tom S. Garrison. Students are not required to purchase this book. An alternative textbook in Japanese is "Invitation to Oceanography (海洋学)" (東海大学出版会、原著第4版、ISBN-10: 4486017668) by Paul R. Pinet (日本語版).</p> <p>International students are welcome to enroll in the course, but should understand that most of the students in the course will be Japanese undergraduate students, so the lectures will be aimed at students with intermediate levels of English ability.</p> <p>Plagiarism is taking credit for someone else's work whether deliberately or unintentionally. Students who, for whatever reason, plagiarize any part of their report will receive a zero for the assignment.</p>								