OCSC4910 Hot Topics in Oceanography

PR: OCSC 1000 and a minimum of 3 credit hours at the 3000 level in any Faculty of Science course

Syllabus for OCSC 4910:
Oceanography is the study of the physics, chemistry, geology and biology of the world oceans. “Hot Topics” in oceanography are areas of heightened current interest to both oceanographers and the general public. This course provides enrolled students with information on a Hot Topic and prepares students for public speaking. Students are encouraged to think about relevant issues from both a scientific viewpoint and a societal perspective.

Examples of “Hot Topics” in Biological Oceanography:
The biological pump of CO₂ to the deep ocean
Iron fertilization of the ocean to enhance the biological pump
Agricultural fertilizer runoff causing toxic algae blooms and anoxic coastal seawater conditions
Bacterial decomposition of oil pollution
Whale stranding

Examples of “Hot Topics” in Chemical Oceanography:
Ocean acidification
Plastic pollution of the ocean

Examples of “Hot Topics” in Physical Oceanography:
Sea level rise with anthropogenic global warming
Slowing of the Atlantic Meridional Overturning Circulation with anthropogenic global warming

Examples of “Hot Topics” in Geological Oceanography:
Melting glaciers
Melting Antarctic ice sheets
Melting Arctic sea ice
Recent undersea volcano eruptions
Recent undersea earthquakes and tsunamis

One hour of faculty lecture or student presentation (Monday class), one hour of students discussion (Wednesday class) and one hour of class debate (Friday class) per week.

No Textbook; Scientific publications and news media articles provide information for the faculty lecture or student presentation, classroom discussion and class debate.

Should classes be disrupted by Sars-CoV-2 during the Winter 2023 Semester, the course will transition to remote delivery. Students will be notified of changes to the course syllabus through the Brightspace
course shell Communications and through student’s MUN emails sent by the instructor.

**Course Instructor:**
Professor: Dr. Joe Wroblewski
Office: C4047, Physics Chemistry Building
Phone: 864-2410
E-mail: jwroblew@mun.ca
Office hours: one hour before and one hour after scheduled class time

**Class time:** MWF 11:00-11:50 AM
Room: C4011, Physics Chemistry Building

**Course Outline:**
One Hot Topic will be covered per week during the semester.
The Monday lecture by a Faculty Member or by a course-enrolled student will provide the background science on a chosen Hot Topic.
The Wednesday class will be a round-table discussion of relevant news media articles.
The Friday class will be a student-led debate to understand the various views of the public.

**Evaluation**
Presentation (35%) – Each student will choose a Hot Topic. The instructor must approve the topic. The student will present a 30-minute briefing on the scientific background of the Hot Topic during the Monday class time.

Assignments (45%) - Each week, after the Monday scientific background presentation, and after the Wednesday discussion of relevant news media articles, all students will write a summary of the key issues of the Hot Topic, with a list of points for the Friday class debate. This 1-2 page assignment should be emailed to the course instructor before Friday class.

Debates & Discussions (20%) – Students will be graded by the course instructor on the level of participation during the Wednesday class round-table discussion and during the Friday class student-led debate.

<table>
<thead>
<tr>
<th>Structure of Course Evaluation</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>35</td>
</tr>
<tr>
<td>Assignments</td>
<td>45</td>
</tr>
<tr>
<td>Class participation</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Course Material:** Assigned readings will be posted on the Brightspace course shell. Readings will be from a number of different sources, including scientific journals and online newspaper articles (e.g. The Globe and Mail, The New York Times, The Guardian).

This course challenges your understanding of contentious views. Students will consider views that may not be held personally. This class is designed to provoke thought, encourage discussion, and improve your scientific communication skills. In your assignments - any direct quotes must be clearly identified, using quotation marks, and referenced properly. Avoid plagiarism.
Land Acknowledgement, Memorial University
We acknowledge that the lands on which Memorial University’s campuses are situated are in the traditional territories of diverse Indigenous groups, and we acknowledge with respect the diverse histories and cultures of the Beothuk, Mi’kmaq, Innu, and Inuit of this province.