OCSC 4910 - Hot Topics in Oceanography
Winter 2020

Description: OCSC 4910 Hot topics in Oceanography explores the fundamental science behind current oceanographic topics of key importance, challenging students to think of these issues from both a scientific and societal perspective. Topics of current interest are covered, for example sea level rise, ownership of the Arctic, marine protected areas, climate change, harmful algal blooms, coral reefs, and marine bioprospecting. Lectures are subdivided between learning scientific principles and using them inside student-led debates.

LC: one hour per week
OR: two hours per week discussion and debate, either face to face or online
PR: OCSC 1000 and a minimum of 3 credit hours at the 3000 level in any Science course

Text: Current scientific publications and news articles will be used to supplement the discussions

Instructors:
Professor: Dr. Rachel Sipler  
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Office hours: By appointment

Schedule: MWF 11:00-11:50 PM  Room: C2033

Format: 1 hour of lecture per week, complemented by 2 hours per week of discussion and debate, portions of which can occur face to face or online. Each topic will be covered in a series of 2-3 classes, with 1/3 of each topic section providing a lecture on the fundamental scientific data related to the subject being discussed; 1/3 being a round table discussion of the information being provided through the media and exploring the various perspectives; and the final 1/3 of each topic will be a student-led debate where students will be asked to represent multiple sides of the issue to understand the perspectives of others that they may or may not necessarily agree with. Students will be required to develop points for the debate (grounded in scientific knowledge), describe what they believe is the key issue underlying the confusion or interest surrounding the topic, and prepare a 3-sentence “elevator talk” that they would be able to present if asked about these topics in a public (non-scientific/academic) setting.

Evaluation
Assignments (60%) - Each week students will be asked to prepare a 2 page written assignment that includes a list points for the debate, a description of what they believe is the key issue underlying the confusion or interest surrounding the topic and a 3-sentence “elevator talk” that they would be able to provide if asked about these topics in a public (non-scientific/academic) setting. Each of the 12 weekly assignments will account for 5% of the final mark.

Debate & Discussion (15%) – Students will be graded based on their level of preparedness to orally discuss the topic and the level of active engagement in the discussion.

Final Exam (25%) – The final exam will evaluate the student’s level or understanding of the core science behind the topics discussed.

Structure of Course Evaluation  
Marks
Debate Materials & Discussion  15
Assignments  60
Final exam  25
Total:  100
MUN grading system: http://www.mun.ca/regoff/calendar/sectionNo/sectionNo=REGS-0661#REGS-0662

Course Material: Recommended readings, assignments and class updates will be posted on our class Desire2Learn page (http://online.mun.ca). Course material will come from a number of different sources including scientific journal articles and news articles (e.g. CBC, New York Times, other popular news outlets). Students will be expected to check the D2L site for updates.

POTENTIAL TOPICS

- Climate change and ocean circulation
- Harmful algal blooms
- The war on plastics
- Wastewater- Is dilution the solution to pollution?
- Overfishing vs aquaculture
- Marine protected areas
- Ocean acidification
- Bioprospecting – a sea of opportunities
- Sea level rise
- Who owns the Arctic- exploring the implications of an expanding Northwest Passage
- Coral reefs - who cares if they disappear?
- Not in my backyard - regulating upstream land use

Important dates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 6, Monday</td>
<td>Lectures begin</td>
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<tr>
<td>January 8, Wednesday</td>
<td>Week 1 Assignment due (in class)</td>
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<td>January 15, Wednesday</td>
<td>Week 2 Assignment due (in class)</td>
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<tr>
<td>January 22, Wednesday</td>
<td>Week 3 Assignment due (in class)</td>
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<tr>
<td>January 29, Wednesday</td>
<td>Week 4 Assignment due (in class)</td>
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<tr>
<td>February 5, Wednesday</td>
<td>Week 5 Assignment due (in class)</td>
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<tr>
<td>February 12, Wednesday</td>
<td>Week 6 Assignment due (in class)</td>
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<td>February 17 - 21, 2019</td>
<td>Winter break</td>
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<tr>
<td>February 26, Wednesday</td>
<td>Week 7 Assignment due (in class)</td>
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<td>March 4, Wednesday</td>
<td>Week 8 Assignment due (in class)</td>
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<td>March 11, Wednesday</td>
<td>Week 9 Assignment due (in class)</td>
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<td>March 18, Wednesday</td>
<td>Week 10 Assignment due (in class)</td>
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<td>March 25, Wednesday</td>
<td>Week 11 Assignment due (in class)</td>
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<tr>
<td>April 2, Wednesday</td>
<td>Week 12 Assignment due (in class)</td>
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<td>April 3, Friday</td>
<td>Lectures end</td>
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<tr>
<td>April 8-18</td>
<td>Final Exams</td>
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Class policies: All students are expected to display respect for the learning environment. This includes respecting opinions of your instructor, classmates and any guests as they are expressed in class. We welcome students from various disciplines and differing ethnic and cultural backgrounds expect course discourse to be collegial and respectful across disciplinary, ethnic, cultural, and personal boundaries. Laptop use is restricted to course-related activities including accessing lecture materials and taking your own course notes. If you are seen using social media or any program or electronics that are distracting to you, the instructor or your classmates you will receive no participation marks associated with that particular discussion. Please wait until after class to have any digital or verbal discussions. All students are bound by the Memorial University Student Code of Conduct (https://www.mun.ca/student/supports-and-resources/respectful-campus/student-code-of-conduct.php).
Missed/late work: Missing an assignment or presentation date: You should contact the instructor as soon as possible to explain the reason. In case of sickness, you do not have to produce a doctor’s note for the missed assignment. Debates cannot be made up. If you have an excused absence, the marking for the missed debate will be added (prorated) to your final exam. Assignments and presentations, missed without explanation will receive a mark of 0%. Late assignments should be emailed directly to the instructor and will be deducted 5% for each day that it is late. If you are assigned to a debate and are absent without explanation you will receive a mark of 0%.

Dropping the course (after the last drop date) or requesting deferred final exam for health reasons requires a doctor’s note. The information required in the doctor’s note is listed in Section 6.14.6 of MUN Calendar, http://www.mun.ca/regoff/calendar/sectionNo=REGS-0859

Academic Integrity: All students are personally responsible for knowing which actions could be viewed as dishonest. Students found guilty of an academic offence may be subject to penalties commensurate with the offence. The standards to Academic Integrity are outlined in the Undergraduate Calendar: http://www.mun.ca/regoff/calendar/sectionNo=REGS-0748

This class is designed to provoke thought, encourage discussion, and improve your scientific communication skills. Quoting word for word should be done sparingly. In your assignments - any direct quotes must be clearly identified as such, using quotation marks, AND referenced properly. Plagiarism will not be tolerated and if detected you will receive a 0 mark for that assignment and the issue will be submitted to the academic counsel. Please take the time to digest the information and put it into your own words.

Inclusion and Equity: Memorial University of Newfoundland is committed to ensuring an environment of understanding and respect for the dignity and worth of each student and also to supporting inclusive education based on the principles of equity, accessibility and collaboration. Students who may require physical or academic accommodations are encouraged to contact the Glen Roy Blundon Centre https://www.mun.ca/student/new-student-experience/access.php

Support Services offered to students at Memorial include:

- The Counselling Center http://www.mun.ca/counselling/home/
- The Glen Roy Blunden Center http://www.mun.ca/blundon/about/index.php
- The Writing Center http://www.mun.ca/writingcentre/about/
- Student Affairs and Services http://www.mun.ca/student/home/
- The International Student Advising Office http://www.mun.ca/isa/main/