

GEOG 7440 – Climate change and the Arctic marine system

Winter 2016

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Description

This seminar course will focus on exposing students to the broad range of Arctic research being done within CEOS and by our large network of collaborators. Each week a guest lecturer will present on their field of expertise, providing background knowledge on the topic while also presenting some of their recent work and recent developments in the field. After the guest lecture students will give presentations on journal articles of their choosing that highlight work in their area of study. The goal of the course is to share knowledge and spark discussion between students and guest lecturers.

General Information:

Dave Babb – Office 536 Wallace Building, email: david.babb@umanitoba.ca

Nathalie Thériault – Office 536 Wallace Building, email: nathalie.theriault@umanitoba.ca

Lectures:

Wednesday 2:30-5:00 pm, 545 Wallace Building

Evaluation:

<u>NSERC/SSHRC proposal:</u>	<u>50%</u>
<u>Journal article presentations (x2)</u>	<u>20%</u>
<u>Journal article reports (x2)</u>	<u>20%</u>
<u>Class participation</u>	<u>10%</u>

Final Grade Allocation:

A+	> 90%	C+	65% - 69%
A	80% - 89%	C	60% - 64%
B+	75% - 79%	D	50% - 59%
B	70% - 74%	F	< 50%

Course Policies:

Reports: Journal article reports must be emailed to Dave or Nathalie prior to the beginning of the class during which the student is presenting. A penalty of 10% per day will be given to late reports unless the student has obtained instructor's approval in advance of the deadline. Please name your word document "GEOG7440_last name_article#" with # being either 1 for your first paper or 2 for your second. i.e. GEOG7440_Babb_article1.doc

Academic dishonesty: Academic dishonesty (plagiarism, cheating) is a very serious matter in any academic institution and is dealt with severely at the University of Manitoba. Commonly the penalty for any form of cheating is a grade of F on the assignment and/or a final grade of F in the

course. Please familiarize yourself with the University policy on academic dishonesty found in the Undergraduate Calendar on the University website.

Questions/Concerns: If you are having a problem and want to discuss something, please feel free to see either Dave or Nathalie before/after class or in our office at a more convenient time. We can also be reached via email.

Voluntary Withdrawal Date: The voluntary withdrawal date is the last date for withdrawing from this course without academic penalty. The voluntary withdrawal date for this course is March 18, 2016. Evaluative feedback will be provided prior to this date.

Journal article assignment:

Each student is required to review two scientific journal articles (peer-reviewed) of their choosing that are related to their field of study. The article must be chosen from a major scholarly journal, with a focus towards articles that are benchmarks within their field, or represent new developments within their field. The article should be selected one week prior to the assignment due date and circulated to the instructors, as well as the class. Each assignment will consist of a written review (10 page maximum, double spaced) and oral presentation (20 minutes) on the paper. The written review and oral presentation should contain the following

- (i) Thoroughly introduce and review the paper
- (ii) Discuss the impact or context of this work on the broader field of study
- (iii) Highlight how it relates to and may contribute to their own thesis work
- (iv) Critique the paper. What are the shortcomings of the paper? Were their methods sound? What would you have changed/improved within the paper?

A round of questions and discussion will take place after each oral presentation. The presenters' ability to answer questions will be considered towards their grade. Questions and contribution towards the discussion from the audience will be considered towards each students participation mark.

NSERC/SSHRC Application assignment:

Each student is required to complete an NSERC or SSHRC style research proposal on a topic related to their own research. This should follow NSERC guidelines (GEOG_7440_NSERC_Application.).

The purpose of this assignment is to challenge you to concisely present a research concept, and identify the key project management and research considerations for the project. The deadline for the proposal will be the **March 25, 2016**.

Tentative presenter schedule:

<u>Date</u>	<u>Guest Lecturer</u>	<u>Student Presentations</u>	
<u>January 6</u>	<u>No class</u>	--	--
<u>January 13</u>	<u>Course introduction and outline</u>	--	--
<u>January 20</u>	<u>David Babb – Sea ice introduction</u>	<u>Joe</u>	-
<u>January 27</u>	<u>Steve Ferguson – DFO</u> <u>Marine Mammal's in Hudson Bay PBS documentary</u>	<u>Lisa</u>	<u>Zakhar</u>
<u>February 3</u>	<u>Jack Landy – CEOS</u> <u>Sea ice thermodynamics and melt processes</u>	<u>James</u>	<u>Heather</u>
<u>February 10</u>	<u>No class</u>		
<u>February 17</u>	<u>READING WEEK – No class</u>	-	-
<u>February 24</u>	<u>No class</u>	-	-
<u>March 2</u>	<u>Nix Geilfus – CEOS</u> <u>Sea Ice Biogeochemistry</u>	<u>Joe(2)</u>	<u>Tom</u>
<u>March 9</u>	<u>Sonja Ostertag – DFO</u> <u>Marine Mammals</u>	<u>Laura</u>	<u>Durell</u>
<u>March 14</u> <u>(Monday)</u>	<u>Jens Ehn –CEOS</u> <u>General Oceanography (Circulation,</u>	<u>Zakhar(2)</u>	
<u>March 16</u>	<u>Fei Wang – CEOS</u> <u>Arctic Environmental Chemistry</u>	<u>Aura</u>	
<u>March 23</u>	<u>Chris Debicki and Kristin Westdal (OceansNorth)</u> <u>Manitoba's Beluga Management plan</u>	<u>Durell (2)</u>	<u>Aura (2)</u>
<u>March 29</u> <u>(Monday)</u>	<u>Valery Zavorotny – NOAA</u> <u>Measurements of soil moisture, snow and vegetation with GPS</u> <u>Interferometric Reflectometry</u>		
<u>March 30</u>	<u>David Barber – CEOS</u> <u>Impacts of an increasing marginal ice zone in the Arctic &</u> <u>How to write a journal article.</u>	<u>Laura (2)</u>	<u>Heather</u> <u>(2)</u>
<u>April 6</u>	<u>Stephen Petersen</u>	<u>Tom(2)</u>	<u>Lisa(2)</u>