

# **GEOG 7400 FIELD TOPICS IN ARCTIC SYSTEMS: SNOW COVERED SEA ICE**

## **COURSE OUTLINE – WINTER 2015**

### **DESCRIPTION**

The University of Manitoba, in collaboration with the Greenland Institute for Natural Resources and Aarhus University in Denmark, has established the Arctic Science Partnership. As part of this partnership, the Department of Environment and Geography will be offering a field course in Arctic Science. The focus of this year's field course is on ***Snow Covered Sea Ice***. This field school will bring together 15 graduate students with diverse backgrounds in Arctic science examining the role snow covered sea ice plays in the Arctic system. Through lectures, field activities, and interactions with the local community, the students will learn about various aspects of snow covered sea ice, including the physical, biological and social importance of it, as well as the methods to measure and study the micro- and macro-scale features. The field school also aims to engage the local communities by developing and implementing an outreach program for local students, and by including elders as instructors. The field school will be hosted at the Greenland Institute for Natural Resources in Nuuk Greenland, which contains laboratories, classrooms, a community science centre, and a dormitory.

#### Goals of the Field School

##### *1: Learn About the North*

Students involved in the field school will be taught by experienced scientists with backgrounds in the various aspects of snow covered sea ice. The instructors will work together to design lectures, field activities and other events to teach these subjects in an integrated and multi-disciplinary manner.

##### *2: Engage the Local Communities*

The students and instructors will involve the local communities with the field school whenever possible. Local students will be involved through a partnership with the local high school and other community groups.

##### *3: Share the North with Southerners*

At the conclusion of the field school, the students will be encouraged to adapt their community outreach efforts to something that they can present to school children in the south. The students will also be encouraged to share what they have learned with their colleagues through short talks and conference presentations. A subset of the students, organizers, instructors and community members will analyze the successes of the field school, and publish the results.

### **COURSE LOGISTICS:**

The course will be delivered in the winter of 2015, with the majority of the course being held in or around Nuuk Greenland. More specifically, there will be approximately 5 field days in Nuuk, which includes lectures and experiential learning. A typical field day will consist of 6-10 contact hours for any given day, depending on the topic.

The field component of this course will involve travel to Nuuk Greenland and the surrounding area for a one-week duration, as well as using snow machines and sleds to visit sampling sites a few kilometres from the lodging. Students are expected to handle sampling equipment and there is a potential of exposure to cold and inclement weather.

### **GENERAL INFORMATION (SUPERVISING INSTRUCTOR)**

Dr. John Iacozza

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### **DATES OF COURSE**

February 13-20, 2015

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### TENTATIVE SCHEDULE

- Day 1 February 13: Travel from Iceland/Copenhagen to Nuuk Greenland
- Day 2 February 14: Introductory Lecture to the course, introduction to the facilities, safety, etc.
- Day 3 February 15: Geophysical aspect of sea ice lecture (am); Geophysical aspect of snow (pm)
- Day 4 February 16: In field sampling and laboratory work
- Day 5 February 17: Biological importance of snow covered sea ice
- Day 6 February 18: Social importance of snow covered sea ice; community event
- Day 7 February 19: Group Presentations
- Day 8 February 20: Travel to Iceland/Copenhagen (and beyond)

### TEXT

REQUIRED: Readings as assigned.

### EVALUATION

Presentation	20%	(last day of lectures)
Participation	60%	
Final Report	20%	(due March 10, 2015)

### FINAL GRADE ALLOCATION

A+	90% or above	C+	65% - 69%
A	80% - 89%	C	60% - 64%
B+	75% - 79%	D	50% - 59%
B	70% - 74%	F	49% or below

### STUDENT RESPONSIBILITIES

- A high level of student cooperation and participation during the field work, involving asking and answering questions during the lectures.
- Students are required to attend all lectures and take notes. Students are expected to be punctual for lectures.
- The individual student is required to read the assigned readings *prior to the field school*.
- Students are required to complete the necessary final report individually.

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### COURSE POLICIES

Final Report: Final report is due by 2:30 pm (Central Time) on due date. **A penalty of 10% per day** will be given to late reports unless the student has obtained instructor approval in advance of the deadline.

Academic Integrity: 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.

Questions/Concerns: If you are having a problem and want to discuss something, please feel free to see me before/after lectures, or through my office number or email (outside the field school).

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 19, 2015. Evaluative feedback will be provided prior to this date.

### COURSE COSTS

Students are required to cover their own transportation to Nuuk Greenland, and any tuition costs (if applicable). Students not registered at the University of Manitoba may be required to register as a visiting student to take this course. There will also be a field cost (\$500) associated with this course to offset room and board and field logistics in Nuuk.

### ASSIGNMENTS

*Presentation* – this presentation will provide the class with summary of one of the topics discussed in the lectures and field activities, as well as how it applies to the research being conducted by the students as part of their degree program. This presentation should be no longer than 40 minutes in length, with an additional 10 minutes for questions from the class and/or Instructor(s). Each presentation will be done in groups of 4 students on an assigned topic that discussed in lectures/field activities. The presentations will be occurring on the last day of the field school.

*Final Report* – this report will research a particular topic discussed in the field course, as well as explain the context of your research. This report should be no longer than 20 pages (double spaced, 12 point font, standard margins). The page number restriction includes all figures/tables (not references). This report is done individually and not in groups. It must be submitted two weeks after the last date of the field school (March 10, 2015) and should be submitted through email to John Iacozza.