

PhD course, 5 ECTS

Arctic in a Changing Climate

17 Oct - 11 Nov 2022 (Lecturing week 24 - 28 Oct)

Dep. Earth Sciences, University of Gothenburg

Welcome to a cross-disciplinary course

The course will give graduate students a broad **holistic knowledge about the Arctic** and how systems are affected by the ongoing climate change and potentially feed back to the climate system.

Lectures and seminars will cover several disciplines within Science (e.g. **Atmosphere, Cryosphere, Terrestrial Ecology, Marine issues and Climate modelling**) and aims to create a stimulating forum for graduate students with issues that force them to broaden their perspective from their own doctoral research.

Permafrost



Cryosphere



The course is given within the [ClimBEco research school program](#) and is an cooperation with the [Third Pole Environment](#).

Register before **3 October 2022** using this link:

<https://fubasdoc.gu.se/fubasextern/info?kurs=NGEO302>

The course + course dinner is free of charge .

Oceanography



Atmosphere



Ecology



Contact persons:

Mats P. Björkman (mats.bjorkman@gu.se)

Robert G. Björk (robert.bjork@gu.se)

Preliminary schedule:

UGOT = University of Gothenburg LU = Lund University
SU = Stockholm University

Preparation

17 - 22 October - Literature week
This week is to prepare for lectures and group work
Working from home

Lecturing week

24 October - Marine	
<i>The ice-covered ocean: dynamics and changes</i>	Céline Heuzé, UGOT
<i>Marine primary producers in a changing Arctic</i>	Angela Wulff, UGOT
<i>Permafrost thaw and transport to the Arctic oceans</i>	Örjan Gustafsson, SU
25 October - Cryosphere	
<i>Sensitivity of ice sheets and smaller glaciers to climate change</i>	Jakob Heyman, UGOT
<i>Permafrost</i>	
<i>Snow</i>	Mats P. Björkman, UGOT
26 October - Terrestrial	
<i>Vegetation of the Arctic and sensitivity to CC</i>	Robert G. Björk, UGOT
<i>Arctic fauna</i>	Karin Norén, SU
<i>Greening and Browning of the Arctic from space</i>	Heather Reese, UGOT
27 October - Atmosphere	
<i>Atmospheric transport of pollutions into the Arctic</i>	Mats P. Björkman, UGOT
<i>Arctic atmosphere, responses and feedbacks to a changing climate</i>	Hans-Christen Hansson
28 October - Modelling	
<i>Use Process-oriented Models to simulate Arctic Tundra Ecosystems</i>	Wenxin Zhang, LU
<i>Arctic Amplification</i>	Deliang Chen, UGOT

After work

31 Oct - 11 Nov - Report preparation
Essay preparation and students peer-review corrections
Working from home

You need to (to get the credits...):

- Participate in group work and discussions during the lecturing week.
- Present a review of at least one scientific paper at the seminars, read and prepare questions for each seminar.
- Write a three page report putting your own PhD topic into a broader pictures based on the course content.
- Students are expected to bring a poster on their own PhD topic.

