

GG1019 – Climate Change – A transdisciplinary perspective

Welcome to Climate Change – A transdisciplinary perspective!

The first session will be held from 18:00 to 19:00 on January 25 via Zoom. The link for this session is <https://stockholmuniversity.zoom.us/j/4031297078>

This 7.5 credit online evening course is a solutions-oriented course on climate change. The course is at the interface of natural, social and human sciences. It aims to convey a holistic approach to caring for nature and culture in the Anthropocene.

We will not use Athena. Do not look for the course there!

Course contents

- an introductory session (January 25 from 18:00 to 19:00),
- a series of nine evening sessions (mainly on Tuesdays from 18:00 to 20:30, from February 1 to April 5) via Zoom (links below), each of which begins with a lecture and is followed by discussion.
- a home assignment **which forms the final exam for the course**. This is to create a “toolbox” of solutions for the Anthropocene. The toolbox aims to place you in the driving seat of societal transformation. **You will receive an e-mail explaining how to make your toolbox on April 6**. It needs to be submitted on or before April 26.

Course assessment and obligatory participation

The course is graded A-F based on a numerical score for the toolbox. Assessment criteria will accompany the toolbox instructions which you will receive on April 26. You must obtain grade E or higher for the toolbox AND you must attend the introductory session and all nine evening sessions*.

** In exceptional circumstances, we will waive this requirement for a maximum of 2 sessions provided that a written motivation is sent to the course leader at least 24 hours before a session that you are unable to attend. If you need to miss more than 2 sessions, you should apply to read this course next time it is offered.*

Zoom rules and recording of lectures

Evening sessions will comprise lectures and discussions. Lectures will be recorded so that you can watch them again. Discussions will not be recorded. To allow us to record lectures and comply with GDPR rules and also to allow course participants to follow lectures from mobile phones, we will turn off participant videos, microphones and the chat while we are lecturing. All of these functions can be used during the discussions. We also remind all participants that Stockholm University has a zero-tolerance policy concerning any form of harassment or abusive behavior. This means that any such behavior in (e.g.) the Chat or Breakout rooms will be reported to the Disciplinary Board and may lead to disciplinary action.

It is vital that you order the course book (*Under the Sky We Make*, Kimberley Nicholas, ISBN: 9780593328170) now, so that you have received it before the start of the course.

Enjoy!

Alasdair Skelton, Christina Fredengren and Miriam Huitric

Introduction – Alasdair Skelton – January 25 (18:00 – 19:00)

Zoom link: <https://stockholmuniversity.zoom.us/j/4031297078>

Session 1: Anthropocene – Christina Fredengren – February 1

Zoom link: <https://stockholmuniversity.zoom.us/j/7079469322>

Reading: Chapters 1 and 2 of Under the Sky We Make by Kimberley Nicholas

This session frames the course by describing how the human has become a major geological actor -and that human action is a driver in climate change. Hence one cannot separate nature from culture. However, not all people are treated equally and the Anthropocene has a bearing on questions of justice between human, but also towards nature.

Session 2: Nature cultures – Christina Fredengren – February 9 (Wednesday)

Zoom link: <https://stockholmuniversity.zoom.us/j/7079469322>

Reading: Chapter 3 of Under the Sky We Make by Kimberley Nicholas

This session takes further the topic of how nature and culture are entangled with each other, but gives a historical background to how they were thought as being separate. This lecture deals with how the ideas of the enlightenment and the capturing of nature as mechanistic compared to nature as living ecosystems in the history of ideas may have played affected how people relate to the environment, and in turn how this might have been a driving force in climate change.

Session 3: Earth's climate – Alasdair Skelton – February 15

Zoom link: <https://stockholmuniversity.zoom.us/j/4031297078>

Reading: Chapters 1, 2 and 3 of Under the Sky We Make by Kimberley Nicholas

This session builds from the ideas of the enlightenment to our modern understanding of Earth's climate as a geological system operating on multiple timescales. It takes a natural science perspective on the factors that control Earth's climate and on the negative feedbacks which regulate climate and the positive feedbacks which cause climate change.

Session 4: Earth's cycles – Alasdair Skelton – February 22

Zoom link: <https://stockholmuniversity.zoom.us/j/4031297078>

Reading: Chapters 1, 2 and 3 of Under the Sky We Make by Kimberley Nicholas

This session describes the cycles of carbon, phosphorus, nitrogen and water that humans are now perturbing. It shows how these cycles are coupled with one another and how each cycle operates on multiple timescales.

Session 5: Human perturbations – Miriam Huitric – March 8

Zoom link: <https://stockholmuniversity.zoom.us/j/65548969181>

This session describes how humans have become a primary driver of Earth's cycles in the Anthropocene. The point that humans are driving (not controlling) these cycles will be made, i.e. perturbations are a "by-product" of our activities. This is viewed on the planetary level in the framework of the "Great Acceleration" and at the individual level with the question: "Where was I for breakfast?" i.e. before leaving home many of us have been on most continents via our food.

Session 6: Tipping points – Miriam Huitric – March 15

Zoom link: <https://stockholmuniversity.zoom.us/j/65548969181>

This session explores how human-induced perturbations of Earth's cycles can cause "unforeseen" knock-on effects in which geological and biological systems can flip, sometimes "permanently" to less desirable

states. The corollary, whereby a “flip” in human behavior can trigger a societal transformation will also be explored.

Session 7: Planetary boundaries – Miriam Huitric – March 22

Zoom link: <https://stockholmuniversity.zoom.us/j/65548969181>

The session on “planetary boundaries” is introduced as a framework for a holistic approach to planetary stewardship. Economic models and indicators which focus on addressing human well-being while operating within planetary boundaries with respect to e.g. climate change, Earth’s cycles and biodiversity will be presented.

Session 8: Repairing the damage – Alasdair Skelton – March 29

Reading: Chapters 8, 9 and 10 of Under the Sky We Make by Kimberley Nicholas

Zoom link: <https://stockholmuniversity.zoom.us/j/4031297078>

This session looks at climate change solutions such as emissions reductions, natural climate solutions and carbon dioxide removal. How such actions can be implemented within the framework of the “planetary boundaries” i.e. without incurring negative “by-effects” will be presented.

Session 9: Building the future – Christina Fredengren – April 5

Zoom link: <https://stockholmuniversity.zoom.us/j/7079469322>

Reading: Chapters 1 and 13 of Under the Sky We Make by Kimberley Nicholas

This session looks forward to a future built on intra-generational justice and care. A “deep time” perspective is taken in which examples of longer cycles of cause and effect are given. This leads on to discussion on how important it is to exercise care between generations – but is it totally clear what we mean with generations – who is included and who is not?

Home exam – A toolbox for the Anthropocene – Submission deadline: April 26

The course ends by placing the course participant in the “driving seat” of societal transformation. This includes practical exercises on individual actions such as becoming aware of and thereafter reducing one’s own ecological footprint and on upscaling from one’s own actions to triggering transformation.

Course literature

Under the Sky We Make, Kimberley Nicholas, ISBN: 9780593328170