AK2218 Political Ecology and Technoscience 7.5 credits

Politisk ekologi och teknovetenskap

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

The official course syllabus is valid from the spring semester 2027 as decided by the Faculty Board decision HS-2025-0589. Date of decision 2025-06-12

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Environmental Engineering

Specific prerequisites

120 credits in technology, natural sciences, humanities or social sciences and the upper secondary school course English 6/English B.

Intended learning outcomes

After completing the course, students should be able to

- describe the contemporary ecological crisis in the world from multiple perspectives: political-economic, cultural and epistemological with a particular focus on the role of technology and science,
- analyze the historical processes that led to the current crisis and how different social groups have been affected by environmental problems in different geo-historical contexts and the role of technology and science,
- develop ways of conceptualizing the nature-society relationship in different geopolitical, historical and cultural contexts, to contribute to the design of more inclusive and socially just environmental policies.

Course contents

The course explores the interdisciplinary field of political ecology, with a particular focus on its historical dimension and the role of technology and science. For example, AI and digitalization, climate models, and carbon capture are studied in their relation to ecology and politics. Political ecology is a theoretical and methodological approach to the study of socio-ecological systems, focusing on conflicts, power relations, and the unequal distribution of environmental costs and benefits today and in the future. The field aims to situate debates about environmental problems in their political context, and thereby contrasts with apolitical ecologies that seek to understand environmental issues by exclusively studying universal drivers as solely related to, for example, population growth or biophysical factors.

The course aims to develop the student's ability to use key concepts and tools used by political ecologists to analyze questions about how technology and science create different climate and environmental futures with different implications for justice and distribution of responsibility. Unlike other sciences, political ecology does not rely on experimentation, modeling, or quantitative analysis; instead, this course is based on theoretical concepts documented through case studies, which combine qualitative and quantitative information in an empirically supported investigation.

Examination

- INL1 - Written report, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project, 2.5 credits, grading scale: P, F

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.