



AK2215 Water Systems in Society 7.5 credits

Vattensystem i samhället

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

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

On 7 June 2021, the Dean of the ABE school has decided to establish this official course syllabus to apply from spring term 2022, registration number: A-2021-1145.

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology

Specific prerequisites

180 credits in an optional field. Students from all KTH programmes are welcome to apply. Exchange students are also warmly welcome.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student should be able to:

- - Compare and contrast different historical and present-day ideas about water systems from a societal perspective (e.g. modernity, circularity, resilience and sustainability)
- - Define and use theoretical concepts that explain the development and dynamics of water systems
- - Account for how crises of different kinds contribute to water systems' further development with regard to actors, institutions, technology and politics
- - Analyse and criticise scientific and non-scientific texts and statements about water systems locally, regionally and globally
- - Formulate a historical or social sciences research question about water systems, carry out a literature study and write a paper that contributes to new insights about water systems in society

Course contents

Water systems are of fundamental importance for all societies. They influence the society in numerous ways – and are at the same time influenced by various societal forces. In analogy with other socio-technical systems, such as energy systems and communication systems, water systems have historically been shaped – and continue to be shaped today – by ideologies, actors, institutions and politics. These strongly influence the systems, e.g. regarding the choice between large- and small-scale systems or about who controls the systems. Therefore, it does not suffice with only scientific and technical perspectives to understand the water systems and their dynamics, but we need also to analyse the systems from a societal perspective. The socio-technical perspective, which puts equal emphasis on the social and technical dimensions of the systems becomes particularly relevant when we try to understand and manage water-related crises in the form of e.g. pollution, epidemics, accidents, droughts, floods and climate change. Crises can give rise to conflicts but they can also create new development opportunities, technical and organisational solutions and strategies and changed views on how the systems can and should function.

The course explores water systems in their societal complexity – historically, in the present and with outlooks to the future. The focus is on the systems' socio-technical properties and on the interplay between people, technology and environment, as well as on a number of central ideas that shape the development and dynamics of the systems (e.g. modernity, circularity, resilience and sustainability). Political aspects of hydraulic engineering will play a large role. The course starts out by analysing historical examples of water systems in order to understand the societal factors that have shaped them. Then follows a more present-day perspective, where the focus is on case studies of water systems in different parts of the world and different societal contexts to highlight, how different actors think about and manage water systems in different ways. The course draws on ongoing research in history and social sciences to develop an ability to think critically and deepen the understanding of water systems in a societal perspective.

Examination

- INL1 - Assignment work, 7.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

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.