

Degree programme	Type	Course
Interdisciplinary Studies in Environmental, Economic and Social Sustainability	OP	1

Contact lecturer

Name : Hyerim Yoon

Email : hyerim.yoon@uab.cat

Prerequisites

English proficiency in reading, speaking and writing

Group languages

You can consult this information at the [end](#) of the document.

Objectives

This 5 ECTS elective course, open to Master SAES students. It allows students to explore contemporary debates in global water resource management with aims to provide students with a theoretical and practical foundation for addressing the multifaceted challenges of the water cycle across different scales.

The course moves beyond traditional supply-side engineering to analyze the governance of both conventional (reservoirs, transfers) and alternative (desalination, reuse) infrastructures. Special attention will be given to the shift toward decentralized systems-such as groundwater management and urban greywater/stormwater harvesting-and the implementation of water demand management.

Students will examine the water-energy nexus and "hidden" dimensions like virtual water and water footprints. Furthermore, the course critically addresses the social and ethical dimensions of water, including water poverty, the risks of commodification versus remunicipalization, and the promotion of a governance model rooted in fundamental rights, gender equity, and democratic values. Through classroom exercises, case studies, seminars based on selected literature, and active debate, students will develop the competency in understanding the basics of water management.

Learning outcomes

- CA46 (Design new forms of governance and strategies to address water challenges based on a comprehensive analysis of water that considers its ecological, economic and social dimensions, including risk management.) Design new forms of governance and strategies to address water challenges based on a comprehensive analysis of water that considers its ecological, economic and social dimensions, including risk management.
- CA47 (Demonstrate ethical responsibility by promoting water governance that respects fundamental rights, gender equity, and democratic values.) Demonstrate ethical responsibility by promoting water governance that respects fundamental rights, gender equity, and democratic values.
- KA48 (Explain the characteristics of the governance of hydraulic infrastructures, both conventional (reservoirs, bypasses) and alternative (desalination, reuse).) Explain the characteristics of the governance of hydraulic infrastructures, both conventional (reservoirs, bypasses) and alternative (desalination, reuse).
- KA49 (Describe governance models for decentralised water systems, including groundwater, greywater,

and rainwater in urban environments.) Describe governance models for decentralised water systems, including groundwater, greywater, and rainwater in urban environments.

- KA50 (Define the concepts of hidden water flows (water-energy nexus, virtual water, water footprint), water poverty, water as a social need, and commodification of water.) Define the concepts of hidden water flows (water-energy nexus, virtual water, water footprint), water poverty, water as a social need, and commodification of water.
- SA45 (Propose solutions for the management of water demand, considering its complexity and applying technological and economic criteria.) Propose solutions for the management of water demand, considering its complexity and applying technological and economic criteria.
- SA46 (Analyse the relevant actors in water governance, including administrations, users and civil society.) Analyse the relevant actors in water governance, including administrations, users and civil society.

Contents

- General aspects of water resource management models.
- Governance of large-scale conventional hydraulic infrastructure: reservoirs and water transfers.
- Governance of large-scale alternative hydraulic infrastructure: desalination and reuse.
- Governance of decentralized systems: groundwater, greywater, and stormwater in urban environments.
- Water demand management: practices, economics, and technology.
- Hidden water flows: water-energy nexus, virtual water, and water footprint.
- Water poverty and water as a social necessity.
- Commodification of water: privatization and (re)municipalization.
- Risk management: droughts and floods.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Seminars	12	0.48	KA48, KA49, KA50, SA46
Exercises	6	0.24	CA46, CA47, SA45, SA46
Assigned readings	4	0.16	KA48, KA49, KA50
Search	20	0.8	CA46, CA47, KA48, KA49, KA50, SA45, SA46
Lectures	10	0.4	KA48, KA49, KA50
Self-study	27	1.08	CA46, CA47, KA48, KA49, KA50, SA45, SA46
Tutoring	2	0.08	CA46, CA47, KA48, KA49, KA50, SA45, SA46
Course work	10	0.4	CA46, CA47, SA45, SA46
Readings	30	1.2	KA48, KA49, KA50

The following activities will be carried out:

a) Lectures: Including some sessions led by a guest speaker.

b) Seminars: The teaching staff will provide a brief introduction to a specific topic, followed by student presentations of the assigned readings, group discussions on the main points covered in the readings, and a final conclusion coordinated by the instructor. Students are expected to read the assigned materials, prepare

and lead the discussions, and participate actively in the debates.

c) Exercises: Practical exercises will be conducted in class, including both individual and cooperative work.

Annotation: within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Class participation (including exercises)	20	0	0	CA46, CA47, SA45, SA46
Summary of the seminar	20	0	0	CA47, KA48, KA49, KA50
Seminar presentation in class	20	0	0	KA48, KA49, KA50
Course work (final presentation)	40	4	0.16	CA46, CA47, KA48, KA49, KA50, SA45, SA46

- Class Participation (20%): includes participation in classroom debates and practical exercises conducted in class.
- Oral Seminar Presentation in class (20%): based on the assigned readings.
- Seminar Summary (written) (20%): a written summary of the reading and the seminar debate that took place on the day of the presentation.
- Coursework Project (40%): a poster presentation to apply the topics covered during the course. A portion of the grade will be peer-reviewed.

Non-assessable: Any student who has not completed and submitted the coursework project will be considered "non-assessable." Unsubmitted activities will be graded as zero (0).

Plagiarism: Should a student commit any irregularity that could lead to a significant variation in the grade of an assessment activity, that activity will be graded as 0, regardless of any disciplinary process that may be initiated. If multiple irregularities occur in the assessment activities of the same subject, the final grade for the subject will be 0.

Single Assessment (Avaluació Única): This module does not offer the Single Assessment modality, in accordance with the degree coordination and the Dean's Office of the Faculty of Sciences.

Retake (Resit): Activities related to class participation (including exercises) and the oral presentation of assigned readings are not eligible for a retake. In the event of failing the coursework project, it can be recovered on the date established by the faculty. The maximum grade for a retake is 5. Activities in which irregularities are detected (plagiarism, copying, misuse of AI, etc.) are not eligible for recovery.

Use of AI

Restricted Use: For this subject, the use of Artificial Intelligence (AI) technologies is permitted exclusively for support tasks, such as bibliographic or information searches, text correction, or translations. Students must clearly identify which parts have been generated with this technology, specify the tools used, and include a critical reflection on how these influenced the process and the final result of the activity. A lack of transparency regarding the use of AI in an assessable activity will be considered academic dishonesty and may lead to a partial or total grade penalty, or more severe sanctions in serious cases.

Bibliography

Meehan, Katie et al. 2023. *Water: A Critical Introduction*. : John Wiley & Sons

Bakker, Karen 2010. *Privatizing Water. Governance Failure and the World's Urban Water Crisis*. Ithaca, NY: Cornell Univ. Press

Boelens, Rutgerd et al. (eds). 2018. *Water Justice*. Cambridge: Cambridge University Press.

Gandy, Matthew 2014. *The fabric of Space. Water, Modernity and the Urban Imagination*. Cambridge MA: The MIT Press

Sedlak, David. 2014. *Water 4.0*. NewHaven, Conn: Yale University Press

Swyngedouw, Eric 2015 *Liquid Power. Contested Hydro-Modernities in Twentieth Century Spain*. Cambridge, MA: The MIT Press

Sultana, Farhana; Loftus, Alex (eds). 2012. *The Right to Water. Politics, governance and social struggles*. London: Earthscan.

Williams, Joe; Swyngedouw, Erik (eds). 2018. *Tapping the Oceans-Seawater Desalination and the Political Ecology of Water*

Madani, Kaveh. 2026. *Global Water Bankruptcy: Living Beyond Our Hydrological Means in the Post-Crisis Era*. United Nations University Institute for Water, Environment and Health (UNU-INWEH), Richmond Hill, Ontario, Canada. DOI: [10.53328/INR26KAM001](https://doi.org/10.53328/INR26KAM001)

Software

No requirement

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TEEm) Theory (master)	1	English	second semester	afternoon