

Systems Approaches for Urban Transitions

URB-401, 4 ECTS, Fall 2025

COURSEBOOK

Systems Approaches for Urban Transitions

4 credits

Teachers: Maria A. Hecher, Claudia R. Binder, Beate Jessel

Language: English

Summary

The objective of this course is to rethink urban transitions by taking a systemic perspective. It provides the foundation for analyzing and designing urban transitions, integrating technical infrastructure, ecological, and social aspects.

Summary (FR)

L'objectif de ce cours est de repenser les transitions urbaines en adoptant une perspective systémique. Il fournit les bases pour analyser et concevoir les transitions urbaines, en intégrant les infrastructures techniques, les aspects écologiques et sociaux.

Content

- This course offers an interdisciplinary perspective of urban systems and transitions through a qualitative systems thinking approach.
- It provides the foundation to analyze the multifaceted nature of urban transitions, encompassing technical urban infrastructure, ecological aspects, and social dynamics like governance and social acceptance.
- The focus is set on the interactions between the built environment, the ecological system, as well as actors and governance structures.
- Students will engage in analyzing complex urban challenges, developing strategies for sustainable transitions in cities.
- Students will gain skills in applying and integrating methods to inform policy decisions and urban planning solutions.

Keywords

Urban transitions, systems thinking, sustainability strategies, urban metabolism, blue-green infrastructure, ecosystem services, social perspectives, policy and governance

Learning objectives

- Develop system thinking skills to understand complex urban systems.

- Apply transition theory concepts to analyze urban systems and their dynamics.
- Recognize urban systems as social-technical-ecological systems.
- Recognize systemic approaches combining green-blue-grey and social infrastructures.
- Recognize the social perspective of urban transitions.
- Develop strategies for intervening in urban systems and foster sustainable transitions.

Transversal skills

- Use a work methodology appropriate to the task.
- Demonstrate a capacity for creativity.
- Demonstrate the capacity for critical thinking
- Access and evaluate appropriate sources of information.
- Collect data.
- Make an oral presentation.
- Write a scientific or technical report.
- Take feedback (critique) and respond in an appropriate manner.

Teaching methods

Lectures with theoretical concepts and applications, guest lectures, group projects

Assessment methods

Individual oral exam 50%, group project report 30%, group project presentation 20%