AR-532

Green spaces - Concepts and planning approaches

Jessel Beate

Cursus	Sem.	Type
Architecture	MA1, MA3	Opt.
Territories in transformation and climate minor	H	Opt.
Urban Planning and Territorial Development minor	H	Opt.

Language of teaching	English
Credits	4
Withdrawal	Unauthorized
Session	Winter
Semester	Fall
Exam	During the semester
Workload	120h
Weeks	12
Hours	**3 weekly**
Lecture	1 weekly
Exercises	2 weekly
Number of positions	

It is not allowed to withdraw from this subject after the registration deadline.

Summary

Urban green offers a variety of services and thus plays an important role in the transformation of our cities. The course provides an overview of various innovative approaches to the planning and design of multifunctional green spaces, focussing on how to build blue and green infrastructures.

Content

The future development of our cities faces major challenges in various respects: Urban areas are hotspots of climate change, and in future they must be designed in such a way that they can adapt to climate change and better retain water during heavy rainfall events. Above all, however, cities are also living spaces for people, which means that quality of life and fair access to open spaces must be maintained and health and human wellbeing must be promoted. At the same time, space is a scarce resource in urban agglomerations. Different demands come together on the same area and therefore conflicts of use often arise, for example in the context of redensification. It is therefore important to adopt a multifunctional approach, i.e. to use urban green and open spaces in such a way that they fulfil different requirements at the same time, i.e. in ecological, design and social terms.

In the international context, a whole series of new approaches have developed in recent years that consider the planning and design of green spaces from these different perspectives and, above all, in relation to adaptation to climate change in order to establish comprehensive blue and green infrastructures. Based on the principle of multifunctionality, the course introduces the scientific basis for the fundamental concepts of ecosystem services, nature-based solutions and green or blue-green infrastructure in urban areas. Building on this, it then uses numerous case studies to illustrate innovative approaches to the planning of green spaces and the development of green infrastructures.

- Green spaces, the ecosystem services they provide and the basic principle of multifunctionality
- From large to small scale - landscape and green space planning at different scales, interrelationship between formal and informal planning processes.
- Cities in climate change and the role of green systems
- Nature-based solutions and blue-green infrastructures to support the adaptation of cities to climate change
- Therapeutic mechanisms and health effects of green spaces, design of green spaces and green space systems to support human health and social wellbeing
- Analysis and critical discussion of some common and innovative planning and design concepts for green spaces on international level (e.g. green belts, double inner development in the redensification of settlements, picoparks, urban gardening + agriculture, and urban wilderness, animal-aided design)
- Role of participatory approaches

Keywords

Sustainable Transformation of Cities
Urban Greening
Ecosystem Services
Nature-Based Solutions to Climate Change Mitigation and Adaptation
Green Infrastructure
Environmental Health
Interdisciplinary Planning and Management Approaches

Learning Outcomes

By the end of the course, the student must be able to:

- Recognize how planning processes work
- Discuss and critically reflect on important planning approaches for green spaces and green infrastructures in urban planning
- Explore the multifaceted role of green spaces for healthy and sustainable urban development as well as for climate protection and adaptation to climate change
- Demonstrate how scientific findings can be translated into concrete planning and design
- Derive suitable concepts for urban green spaces that combine different requirements
- Argue in favour of a close relationship between the built environment and the green environment, which should be considered together from both a design and an ecological perspective

Transversal skills

- Set objectives and design an action plan to reach those objectives.
- Communicate effectively with professionals from other disciplines.
- Write a scientific or technical report.
- Take account of the social and human dimensions of the engineering profession.
- Take feedback (critique) and respond in an appropriate manner.
- Access and evaluate appropriate sources of information.

Teaching methods

Lectures + exercises: Weekly lectures with accompanying discussions, which lay the foundation for own critical reflections, in the form of an analysis and presentation of a self-selected case study, which are put up for discussion together. The results are to be presented and prepared in a final report.

Expected student activities

Students are expected to regularly attend the lectures and exercises offered and to actively participate in the discussions. The are expected to develop a critical reflection on an exemplary planning approach or case study, facilitate a related discussion and, based on this, prepare a short written report.

Assessment methods

Assessment is based on active and continuous participation in the course discussions (30%), as well as an analysis and presentation of a selected case study (30%), which serves as the basis for a written report (40%).

Resources

Bibliography

A comprehensive bibliography will be distributed during the course.

Moodle Link

- https://go.epfl.ch/AR-532