

PENS-219

Hidden rivers

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Cursus	Sem.	Type
Projeter ensemble ENAC	BA4	Opt.

Language of teaching	English
Credits	4
Withdrawal	Unauthorized
Session	Summer
Semester	Spring
Exam	During the semester
Workload	120h
Weeks	
Hours	48 weekly
Courses	4 weekly
Exercises	22 weekly
Project	22 weekly

Number of positions

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

Summary

Hidden Rivers aims at fulfilling the need for an interdisciplinary understanding of the problematics around urban streams, through ecological, hydrological and spatial issues for urban rivers located in Lausanne; with the goal of generating new methods of conceiving the space of metropolitan rivers.

Content

Although rivers have once served as the backbone of civilization, as a vital resource and a link between human habitats and natural environments, the push towards industrialization and urbanization across territories has resulted in the gradual degradation of streams. In this evolution, there are two ways in which contemporary rivers have become more and more 'hidden.' Once meandering river flows have become channelized by linear canals often buried underneath the contemporary urban context. On the other hand, the environmental crisis resulting in flooding and drought of urban-rural habitats, is seldom addressed under the multiple issues underlying rivers, which are often also hidden from the public debate.

How can we make urban rivers more integrated within the context while respecting their own dynamic qualities ? Beyond the limited multi-disciplinary knowledge towards rivers — whether they are understood as natural ecosystems, cultural landscapes or artificial water infrastructure — the challenges within these areas are multiple and complex, requiring a more interdisciplinary approach. A know-how emerging through urbanistic practice, includes integrated urban, water and environmental management methods in river restoration or river revitalization projects. Which allows for the combined consideration of the river's tributaries and its watershed space; as an ecosystem, a public space and a water management infrastructure.

ENAC week's *Hidden Rivers* attempts to expose students to the ecological, hydrological and spatial issues through professional inputs, field observations, analytical and operational methods. By crossing engineering and architecturally related skills, this interdisciplinary approach shall engage in new design-based ideas regarding the future of the rivers' ecosystems, and hydraulics across spatial environments.

Keywords

urban river; water system; interdisciplinary; water infrastructure; cultural landscape; ecosystem; hydrological issues; Lausanne; river revitalisation project; urbanistic practice.

Learning Outcomes

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

- Analyze urban rivers
- Elaborate interdisciplinary river analysis
- Contextualise river ecological, hydrological and territorial issues
- Create innovative ways of conceiving the space of metropolitan rivers

Transversal skills

- Use a work methodology appropriate to the task.
- Communicate effectively with professionals from other disciplines.
- Demonstrate the capacity for critical thinking
- Access and evaluate appropriate sources of information.

Teaching methods

A theoretical and practical overview about contemporary rivers shall be introduced by professionals in the field of urbanism, landscape architecture, environmental engineering and civil engineering. A combination of lectures and on-site workshops shall be undertaken between experts and students to build different analytical skills.

Each student teams shall be multi-disciplinary with the goal of encouraging exchange and understanding between fields of expertise. Fieldwork and analysis shall be undertaken across designated urban river territories in Lausanne to generate better understanding and new ideas.

Assessment methods

Assessment will be made on the basis of the final presentation as well as project materials submitted during the last day of the course - including but not limited to, findings from fieldwork, site analysis, and idea/ proposal.

Supervision

Office hours	No
Assistants	No
Forum	No

Resources

Virtual desktop infrastructure (VDI)

No

Videos

- <https://www.youtube.com/watch?v=XrYWVJKjvRU>
- <https://www.youtube.com/watch?v=x-kObFqAhic>