PENS-223

Waters within cities

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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

Knowledge of how to articulate the "urban transition" is today urgently needed. The course reflects on the possibility of designing an urban space without negatively impacting on its water quality.

Content

Knowledge of how to articulate the "urban transition" is today urgently needed. While urbanization is on a steadily growing trend, systemic territorial strategies able to mitigate and adapt to Climate Change effects seem to lack. More specifically, being anthropogenic impacts increasingly pervasive, urbanization has rapidly-growing effects on the water cycle as a whole. However, while the effects of urbanised/urbanising areas on water quantity (*how much* water) have been well studied, effects related to water quality *(which* water) are mostly unknown.
Taking hold from the most recent developments on the "water age" concept (the time that water resides in the landscape before exiting as runoff or evaporation) the course proposes to work on the notion of "water-age-neutral" design. This concept postulates that the effects of urbanization on the water cycle can be planned such that water quality's is only minimally impacted. Water age is directly relevant for water quality as it quantifies the time available to interact with the environment, but it is also important for understanding water quantity because it reveals which water is transported to a stream during a storm event.
Based on the teacher's specific expertise (knowledge of the contemporary city's most recent forms and water cycle's dynamics), the course reflects -through the analysis of a concrete case study- on the possibility of designing an urban space without impacting on its natural water age balance and thus on its quality.

Keywords

City-Territory, Urbanisation, Water cycle, Land use, Transition

Learning Outcomes

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

- Assess / Evaluate a territorial condition
- Sketch a design strategy
- Describe an urban space
- Analyze an urban water-cycle

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Set objectives and design an action plan to reach those objectives.
- Communicate effectively with professionals from other disciplines.
- Take responsibility for environmental impacts of her/ his actions and decisions.
- Demonstrate the capacity for critical thinking
- Demonstrate a capacity for creativity.

Teaching methods

The course will consist in an "Interdisciplinary Fieldwork Campaign" in which the students, supported by the teachers, will "experience" (on site), draw and critically analyze a portion of urbanised territory (previously selected).
A set of interdisciplinary, original maps, will be produced and commented by the students (work in groups). By the end of the week the students will be able to collectively reflect on "ad hoc" eco-urban design strategies, aiming at reinforcing the "ecosystemic functioning" of the analyzed territory and related water cycle.

Assessment methods

A final presentation and a small report (work in groups) will conclude the course and guide the evaluation.

Supervision

Office hours	Yes
Assistants	Yes
Forum	No

Resources

Bibliography

Provided at the beginning and during the course