

EPFL

Environmental Science and Engineering (SIE)

ENV-442 Urban Green & Blue Infrastructure and Global Warming

Friday 21 February 2025

09.15 Course aim, objectives and organisation

10.15 Introduction to Urban Green & Blue Infrastructure (UGBI)

11.15 Course assessment, individual exercises and group project

Yves Kazemi, lecturer



Course aim and objectives

Aim

1. Introduce the **concept** of urban green and blue infrastructure (**UGBI**) in the context of global warming
2. Present practical **methods** for planning, developing and maintaining an effective and efficient network of UGBI

Understanding

- Urban **challenges** linked to climate change.
- Ecosystem **services** provided by “green and blue” infrastructures.
- **Strategic** assessment, planning, design and implementation of UGBI
- Functional **monitoring** and cost-benefit assessment of UGBI projects

INTRODUCTION

1. Course introduction
2. Definition/Concept

URBAN DEVELOPMENT

11. Resilient City
12. Resilient Society

HEALTH

9. Health & Well-being
- 10 Biophilic design

ENV-462 Program & Milestones

BIODIVERSITY

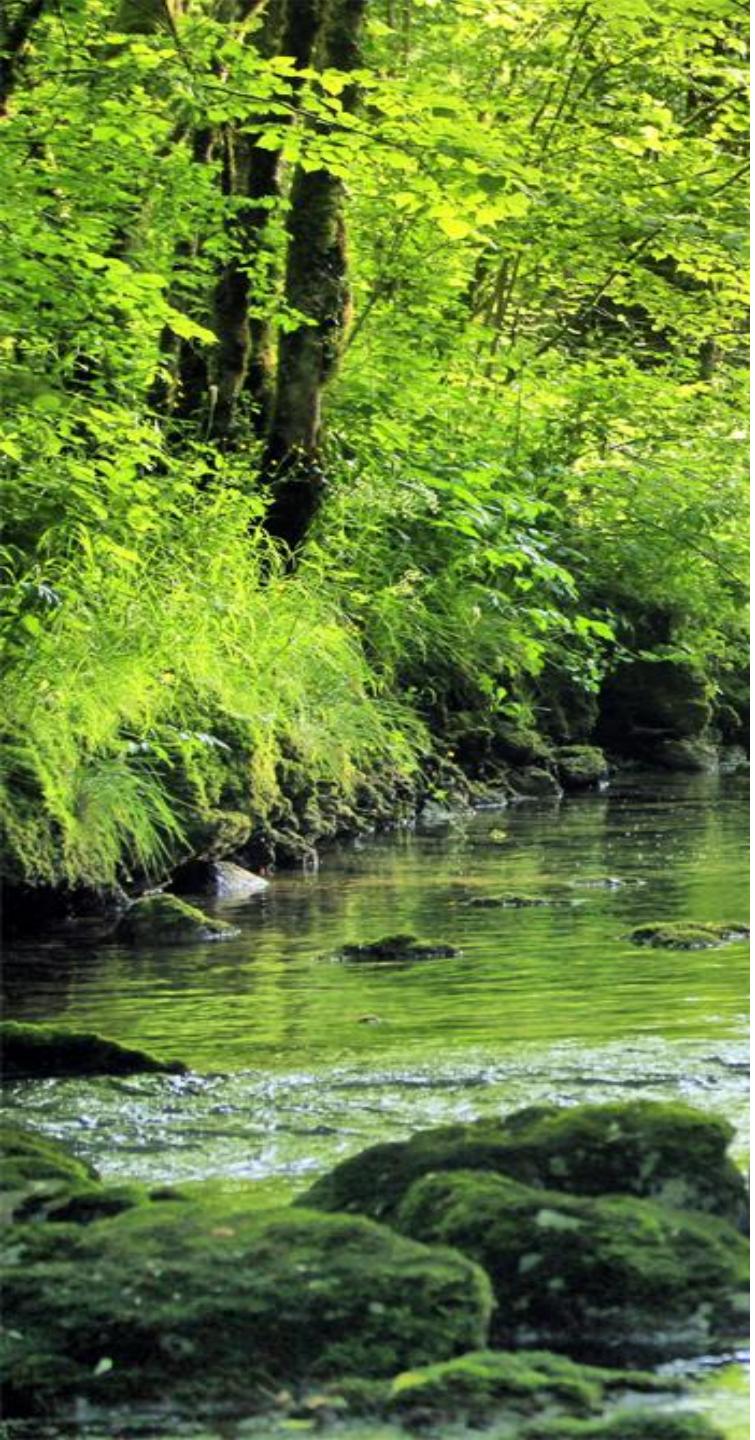
7. Tree in city
8. Urban Ecology

WATER

3. Rainwater management
4. Green street program

URBAN CLIMATE

5. Urban Heat Island
6. Canopy strategy



Course organisation

Course

- 12 sessions from 21.02.25 to 23.05.25
 - 09.15 Lecture
 - 10.15 Lecture/Exercise
 - 11.15 Exercise

Assessment

- 09.05.25 Mid-term individual in-class test (09.15-10.00)
- 30.05.25 Final Assessment (group presentation)

Staff

- Yves Kazemi: yves.kazemi@epfl.ch or +41 (0)79 637 67 46
- Student Assistant: to be confirmed
- *Stefan Joost (GIS)*: stefan.joost@epfl.ch or +41 (0)21 693 57 82



EPFL

What About Me?

- Master's in forestry (EPF Zurich) & Master's in Public Administration (IDEHAP Lausanne).
- Forest policy and nature conservation consultant at national and international levels (1997-2007).
- Head of the regional forest service of the Lausanne agglomeration - management of 4000 ha of urban and peri-urban forests (2007-2024).
- Sabbatical year at the University of British Columbia in Vancouver, Canada - urban forestry and urban green infrastructure (2017-2018).
- Since 2024, Head of the Directorate for Urban Afforestation and Renaturation of the Canton of Geneva - plantation of 150'000 trees.
- Since 2024, ENV-462 Urban Green & Blue Infrastructure and Global Warming (EPFL).



What About You?

Short Presentation

- Your **name**
- Your **current study**
- Your **country**
- Your **interest** in the course





EPFL

First thought?

What is the first word that pops into your mind when you see the picture on the left?