



**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

## 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

# ENV-462 Program & Milestones



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





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## 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





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## First thought?

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