CLIMATE / NATURE / INFRASTRUCTURE / TECHNOLOGY

URBANIZATION AND MANAGING THE CITY OF THE FUTURE

An interdisciplinary learning programme for universities and urban development professionals

Programme concept • Version 1.0 | November 2026

CITIES NEED A NEW WAY OF THINKING

From isolated projects to integrated urban management

Extreme heat, floods, water scarcity and infrastructure pressures are reshaping urban development. This programme helps learners understand how natural, engineered, social and digital systems interact — and how to make decisions based on measurable outcomes.

Learning outcomes

01 Assess climate and environmental risks across urban areas

02 Evaluate the functions of blue-green and engineered infrastructure

03 Select interventions and define performance indicators

SEE → UNDERSTAND → MEASURE → MANAGE

EIGHT LEARNING MODULES

From understanding cities to practical decisions

01

City as a system

Urbanization and integrated governance

02

Cities and climate

Heat, floods, drought and wildfire

03

Nature as infrastructure

Ecosystem functions and nature-based solutions

04

The Blue-Green City

Rivers, irrigation channels, soils, trees and green corridors as an integrated urban natural infrastructure system

05

Climate-ready parks

Cooling, comfort and performance metrics

06

Water-resilient city

Sponge City and stormwater management

07

Digital tools

GIS, sensors, digital twins and AI

08

Managing the future

Investment, KPIs and public participation

CASE STUDIES AND PRACTICE

Cities as living laboratories

Medellín, Colombia

Green corridors and urban heat reduction

Kigali, Rwanda

Wetland restoration and flood management

Almaty, Kazakhstan

Mountains, rivers, irrigation channels and parks as a potentially integrated urban climate infrastructure system.

Petropavl, Kazakhstan

Flooding along the Ishim (Esil) River: flood modelling, risk assessment and protection of urban infrastructure.

Final practical assignment

Future City Resilience Audit: assess an urban area, identify risks, propose interventions and develop monitoring indicators.

FORMAT AND PARTNERSHIPS

An invitation to university partners

The programme is open for discussion and joint piloting as an elective, intensive short course or professional development offering.

24 academic hours • 8 modules × 3 hours

Senior undergraduates, graduate students, faculty and urban management professionals

Programme under development. Partnerships and launch dates will be announced separately.