



Introducing Sustainability and Energy Efficiency Principles in Architectural Education:
Towards Designing Climate Neutral and Inclusive Buildings

Newsletter 5 – May 2025

SPOTLIGHT ON

Launched on October 1st, 2022, the project “Introducing Sustainability and Energy Efficiency Principles in Architectural Education: Towards Designing Climate Neutral and Inclusive Buildings” (INCEPT) is being implemented under the Erasmus+ Programme of the EU. The project strives for climate-neutrality and inclusiveness of the built environment by incorporating sustainable and energy efficient building concepts into architectural education with knowledge and skills at building design stage.

The project consortium consists of the Department of Architecture at the New Bulgarian University (NBU), the Faculty of Urban Planning at the University of Architecture and Urbanism “Ion Mincu” (UAUIM), and the Faculty of Architecture at the University of Zagreb (UNIGZ)

INCEPT PROJECT OVERVIEW

“Introducing Sustainability and Energy Efficiency Principles in Architectural Education: Towards Designing Climate Neutral and Inclusive Buildings” (INCEPT)

Funding: European Union’s Erasmus+ Programme, Call KA220-HED Cooperation partnerships in higher education, Grant Agreement number: 2022-1-BG01-KA220-HED-000089080

Timeframe: 1 October 2022 - 30 September 2025

Contractors: New Bulgarian University, Bulgaria (Coordinator); University of Architecture and Urbanism “Ion Mincu”, Romania; University of Zagreb, Croatia

ONLINE TRAINING COURSE ON SUSTAINABLE ARCHITECTURE

We will dedicate this Newsletter to the implementation of the Online Training Course as an important output of the Incept project.



Co-funded by
the European Union

The INCEPT Project has received funding from the Erasmus+ Programme of the European Union under grant agreement no. 89080



Excerpt from the course announcement

Module 1: Implementing Zero Emission Building Strategies in Architectural Education

delivered by University of Zagreb, Faculty of Architecture (Croatia)

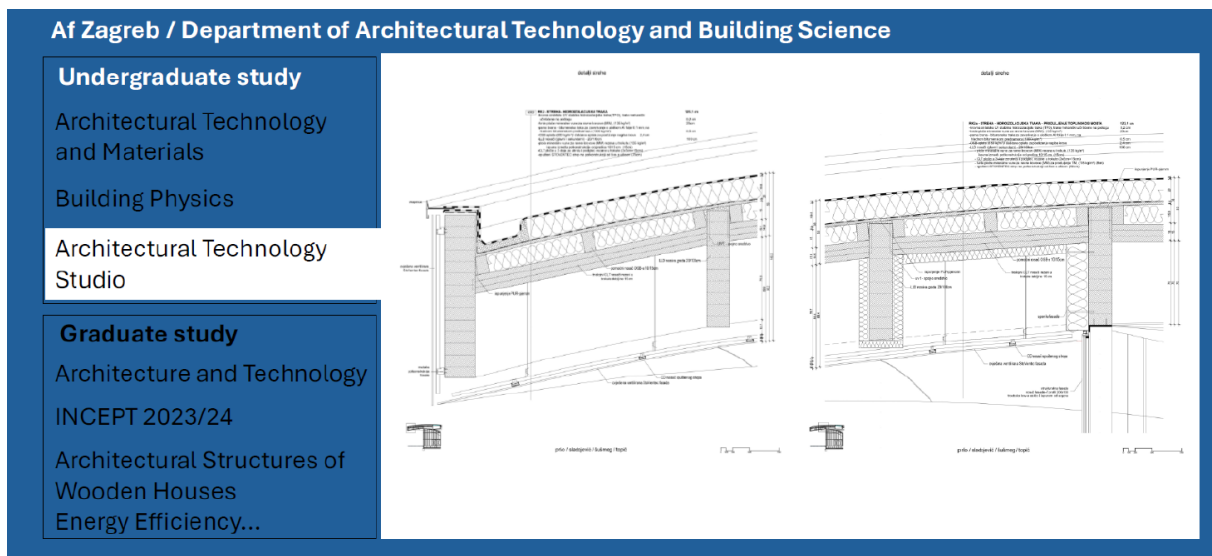
12 May 2025

9:00- 11:00 CET

Lecturers:

Prof. Mia Roth Čerina, PhD Arch.

Sen. Lect. Marin Binički, Arch.



Excerpt from the course presentation by University of Zagreb, arch. Marin Binički (UNIZG)

The lecture, part of the INCEPT project (Erasmus+), explored how climate goals and cultural transformation are reshaping architectural education to support Europe’s green transition. It emphasized aligning pedagogy with the European Green Deal, the New European Bauhaus, and the UN Sustainable Development Goals, embedding sustainability as a core design principle. A key theme was integrating zero-emission strategies into curricula through systemic thinking, interdisciplinary

collaboration, and pilot design studios that addressed urban regeneration, brownfield reuse, circular design, low-carbon materials, and social inclusion. Students worked with experts from multiple fields, applying passive design, efficient detailing, and renewable systems to develop climate-neutral solutions. The lecture also highlighted operational vs. embodied carbon, stressing strategies to reduce both through material optimization, efficient envelopes, and renewable energy. It discussed the impacts of carbon-intensive materials like cement and aluminum, and the benefits of carbon-sequestering alternatives like wood, alongside lifecycle assessments to track emissions from construction to demolition. Ultimately, the lecture called for embedding climate neutrality, circularity, and inclusivity at the core of architectural education, urging sustainability to become the new standard in training Europe's future architects.

Module 2: Bioclimatic design and landscape urbanism

delivered by "Ion Mincu" University of Architecture and Urbanism (Bucharest, Romania)

15 May 2025

14:00- 16:00 CET

Lecturers:

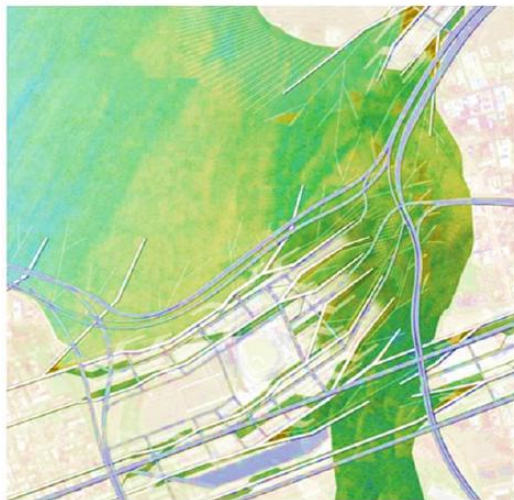
Prof. Angelica Stan, PhD Arch.

Assoc. Prof. Mihaela Hărmănescu, PhD Arch.

Lect. Daniel N. Armenciu, PhD Arch.

Assist. Sorin Manea, PhD Arch.

Landscape - Urbanism



not Landscape **and** Urbanism



Excerpt from Module 2 online course presentation, by Angelica Stan (UAUIM)

The lecture included an introduction to bioclimatic design and landscape urbanism as progressive approaches to sustainable architecture and urban development. It highlighted how bioclimatic design ensures buildings respond to natural elements such as sunlight, wind, water, soil, and vegetation, reducing energy demand and improving indoor comfort through strategies like site orientation, thermal mass, and passive ventilation. The lecture also emphasized landscape urbanism, which integrates ecological systems into urban planning. Rather than treating green spaces as purely aesthetic, this approach positions them as essential frameworks for managing urban growth, enhancing biodiversity, mitigating climate impacts, and strengthening resilience against urban sprawl. Drawing on recent research, the lecture illustrated how combining these strategies enhances urban resilience. Case studies demonstrated that bioclimatic design reduces urban heat and energy use,

while landscape urbanism improves air quality, thermal comfort, and ecological connectivity. Together, these approaches were presented as vital tools for shaping healthier, more sustainable, and climate-responsive cities.

Module 3: Renewable energy sources

delivered by New Bulgarian University (Sofia)

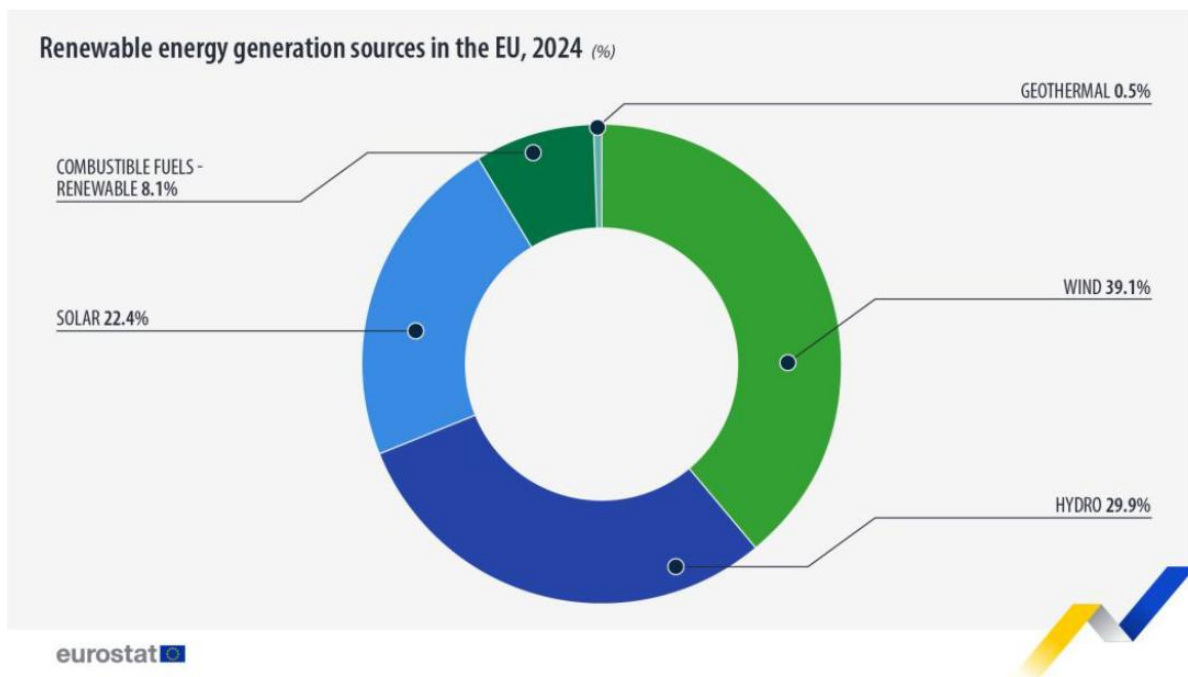
19 May 2025

9:00- 11:00 CET

Lecturers:

Prof. Georgi Georgiev, PhD

Zdravko Georgiev, PhD



Excerpt from Module 3 online course presentation, by Georgi Georgiev and Zdravko Georgiev (NBU)

The lecture included an overview of the term “energy from renewable sources” as defined by the European directive, along with a discussion of how renewable energy—such as wind, solar (thermal and photovoltaic), geothermal, osmotic, ambient energy, biomass, landfill gas, sewage treatment plant gas, and biogas—can be applied in buildings. It explained how renewable energy can be produced on-site or nearby, supporting the transition toward carbon neutrality in the building sector. The lecture also addressed the requirement for nearly zero-energy buildings (nZEBs), highlighting the dual need for both energy efficiency and renewable energy integration. Particular attention was given to the challenges posed by fluctuating energy sources like solar and wind, emphasizing the importance of storage, advanced control systems, and demand-side management to stabilize energy grids and manage peak loads. Key factors in integrating renewable systems into architectural design were explored, including site analysis, building orientation, energy demand, cost-benefit assessment, and regulatory considerations. The lecture concluded with case studies demonstrating successful integration of renewable energy systems into architectural projects, showing how sustainable practices can be seamlessly embedded into the built environment.

Module 4: Building Information Modeling and Digitalization

delivered by New Bulgarian University (Sofia)

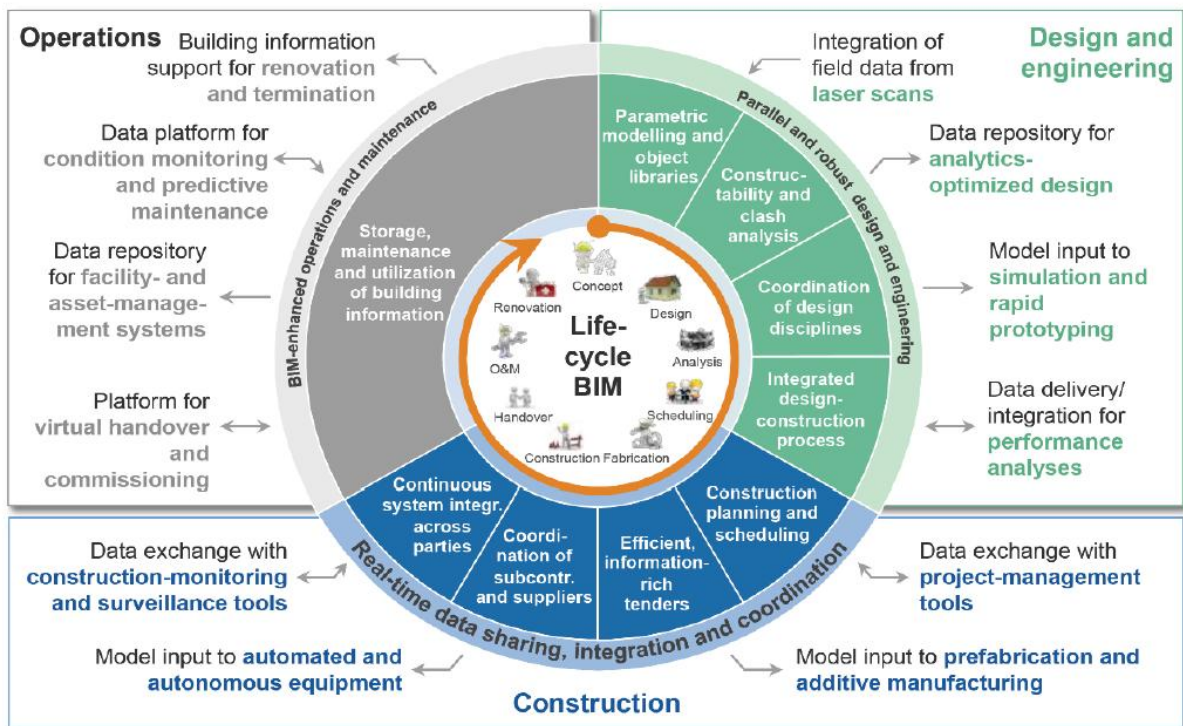
22 May 2025

9:00- 11:00 CET

Lecturers:

Prof. Georgi Georgiev, PhD

Zdravko Georgiev, PhD



Excerpt from Module 4 online course presentation, by Georgi Georgiev and Zdravko Georgiev (NBU)

The lecture included an introduction to the growing importance of building management in ensuring smooth and effective operation of buildings throughout their lifespan. It highlighted how sustainability demands, and digital transformation are reshaping facility management, requiring responsible models that ensure transparency and traceability through advanced digital tools. The lecture emphasized the ongoing shift toward the digitization of building operations and maintenance, driven by developments in construction, occupational health and safety, energy, and security sectors, as well as the broader smart city agenda. It also noted that modern construction planning increasingly integrates facility management from the outset, with tools such as Building Information Modelling (BIM) enabling project visualization, layered data management, and efficient maintenance planning. Furthermore, the lecture explored how rapid technological innovation can lower costs and overcome barriers to energy efficiency by enabling dynamic control of building energy systems. Key instruments and approaches discussed included data collection and AI-driven predictive management, the Internet of Things (IoT) for real-time monitoring, and sharing economy platforms offering new business models for energy-efficient services.

INCEPT PROJECT DISSEMINATION

The INCEPT Project was presented at conferences and fairs in the home countries of the project's partners and abroad. INCEPT Team presented INCEPT Project at:

- INCEPT Project was presented at the 9th "nZEB 2025 Sustainable and Affordable Housing" Conference, held on February 20, 2025 in Zagreb, Croatia. Prof. Zoran Veršić, member of the INCEPT Project team, presented the goals and purpose of the Project.



INCEPT PROJECT DISSEMINATION-ANNOUNCEMENT

The INCEPT Project will be present at the following conferences and fairs:

Incept project will be present at PromoArh fair in Poreč, Croatia. The Fair will be hold from September 17 to September 19, 2025. AF ZG team members will present final Intellectual outputs of the project – <https://www.promoarth.com/>

VISIT US ONLINE

For New Bulgarian University: <https://architecture.nbu.bg/bg/proekti>

For University of Architecture and Urbanism "Ion Mincu": <https://www.uauim.ro/cercetare/incept/>

For University of Zagreb: <https://www.arhitekt.hr/hr/istrazivanje/istrazivacki-projekti/>

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