larcb1362

2026

Building in the Built Environment 1: Understanding Existing Buildings

5.00 credits	40.0 h + 15.0 h	Q2

Teacher(s)	Marino Giulia ;
Language :	French
Place of the course	Bruxelles Saint-Gilles
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	This course introduces the fundamentals of project design in existing buildings—repair, reinforcement, renovation, transformation, extension, etc.—through the lens of understanding the physical and spatial reality of the built environment. A careful assessment of existing structures focuses on identifying and evaluating their condition and potential. This serves as the foundation for selecting the most appropriate project strategies and defining the necessary measures to be undertaken.
Learning outcomes	**At the end of this learning unit, the student is able to :** • Identify and interpret the condition of a building in terms of its dimensional, morphological, and spatial characteristics, as well as its structural and physical behavior over time, including sustainability, • Identify, analyze, and examine the main pathologies and structural defects in buildings, understanding their causes, effects, and potential evolution, • Clearly present and synthesize correlations between various building malfunctions in a manner intelligible to other stakeholders, • Communicate effectively, using discipline-specific terminology appropriately, • Justify a proposed outline of measures to be undertaken. **General Learning Outcomes** In line with the program's learning outcomes (LOs), this course contributes to the development and acquisition of the following LOs: • LO1.1 Identify the parameters and issues of a given situation. • LO1.6 Incorporate Sustainable Development requirements into the design process, at multiple scales. • LO3.1 Acquire and explain the physical and physiological principles related to architecture. • LO3.2 Acquire and explain the construction and technical processes related to architecture. • LO3.4 Acquire and explain the environmental, social, and economic consequences of construction and technical choices. • LO5.1 Communicate attentively and inclusively with the various stakeholders of the architectural project. • LO6.1 Acquire knowledge of disciplinary methods in scientific research. • LO6.2 Adopt a critical attitude free from any preconceptions.
Evaluation methods	Graphic and textual analysis work forms the basis of the assessment during the examination period. Conducted throughout the term, this work is divided into progressive production phases, with teachers providing guidance during dedicated hours. The work is submitted and defended during the examination period. Students' active participation during exercise sessions is also assessed. If generative artificial intelligence (AI) is used, it must be handled responsibly and in line with academic and scientific integrity practices. Anyone using generative AI in a way that does not align with the uses outlined in the teaching unit description is engaging in conduct that constitutes an irregularity under Article 107 of the RGEE (non-personal student production in an assessment context).
Teaching methods	Teaching alternates between lectures and practical sessions. Due to the multidisciplinary nature of the project in existing buildings, synergies with other courses are planned, such as building physics, surveying, figurative techniques, structures and materials. Similarly, contributions from professionals in the field will be invited in the form of public lectures and/or site visits.
Content	The existing building project is a multidisciplinary field that combines scientific rigour with forward-thinking imagination. Historical and technical cultures intersect and overlap in a creative process based on investigative work on the building, which continues throughout the design process. This intellectual approach is founded on detailed knowledge of the built work, involving observation and physical analysis, and drawing on a wide range of theoretical and operational skills. The course's primary objective is to elucidate this intricate approach by examining the methodological challenges inherent in existing building projects, whether they pertain to 'ordinary' buildings or monumental heritage sites.

	Understanding the specific construction features of a building — its structure, materials, components and how they were implemented — – is therefore central to the course. This is particularly pertinent in the initial phase of familiarising oneself with the building, conducting an in-depth diagnosis, assessing its state of conservation, identifying structural issues and understanding its physical behaviour. This careful analysis of the built object within its built and landscape context reinforces the identification of the building's 'cultural values', which are equally important, and informs the conservation project in line with the building's intrinsic characteristics. The course also introduces the various approaches and techniques of intervention, such as conservation, repair, consolidation, restoration and reuse. – is also covered in the course.
Bibliography	Une bibliographie spécifique, par thème traité, sera distribuée pendant les cours.
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Architecture (Bruxelles)	ARCB1BA	5	LARCB1281 AND LARCB1262	🔍