

5.00 credits

40.0 h + 15.0 h

Q1

Teacher(s)	Bolle Caroline ;Gobbo Emilie ;
Language :	French
Place of the course	Tournai
Prerequisites	<i>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.</i>
Main themes	<p>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.</p> <p>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.</p>
Learning outcomes	<p>At the end of this learning unit, the student is able to : <u>Specific Learning Outcomes</u></p> <p>By the end of this course, students will be able to assess and diagnose the condition of buildings and propose measures to extend their life cycle. Specifically, students will be able to:</p> <ul style="list-style-type: none"> • 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. <p><u>General Learning Outcomes</u></p> <p>In line with the program's learning outcomes (LOs), this course contributes to the development and acquisition of the following LOs:</p> <ul style="list-style-type: none"> • 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. <p>LO6.2 Adopt a critical attitude free from any preconceptions.</p>

Evaluation methods	As part of this course, students are assessed in two ways: For Session 1 <ul style="list-style-type: none"> • Continuous assessment including a compulsory assignment to be submitted at the end of the term (30% of the final mark) • A written examination during the session (70% of the final mark). For Session 2 <ul style="list-style-type: none"> • a written exam during the session (100% of the final mark). Note: If generative artificial intelligence (AI) is used, it must be used responsibly and in accordance with academic and scientific integrity practices. This means that anyone who uses generative AI in a manner that does not comply with the uses specified in the course description for the teaching unit in question is committing an irregularity within the meaning of Article 107 of the RGEE (non-personal work produced by the student as part of an assessment). <ul style="list-style-type: none"> •
Teaching methods	Theoretical presentations Visits to construction sites, quarries and/or brickworks, etc. Exercises in structural analysis, stone cutting experiments and restoration
Content	1. Methodology for preliminary analysis and diagnostics: 2. Analysis of materials and construction techniques in ancient and contemporary architecture: <ul style="list-style-type: none"> • Foundations and underground structures; • Stone masonry; • Fired and unfired brick masonry; • Wooden frames and structures; • Concrete structures; • Metal structures; • Joinery. • Roof coverings
Inline resources	All information is shared on MOODLE: <ul style="list-style-type: none"> • Course plan and structure • Course materials posted online after each class • Useful resources
Bibliography	Caroline Bolle, Geneviève Coura & Jean-Marc Léotard (dir), <i>L'archéologie des bâtiments en question. Un outil pour les connaître, les conserver et les restaurer</i> . Actes du colloque international Liège les 9 et 10 novembre 2010, Etudes et Documents, Archéologie 35, Ministère de la Région Wallonne, Namur, 2014. Frans Doperé, <i>Dater les édifices du Moyen Age par la pierre taillée</i> , Safran, Bruxelles, 2018. Patrick Hoffsummer, <i>Les charpentes de toitures en Wallonie</i> , Etudes et Documents, Monuments et Sites 1, Ministère de la Région Wallonne, Namur, 1999. Patrick Hoffsummer (dir), <i>Les charpentes du XIe au XIXe siècle, Typologie et évolution en France du Nord et en Belgique</i> , Cahiers du Patrimoine, MONUM, Editions du Patrimoine, Paris, 2002. Jean-Marie Pérouse de Montclos, <i>Principes d'analyse scientifique, Vocabulaire de l'Architecture, méthode et vocabulaire</i> , MONUM, Editions du Patrimoine, Paris, 2011. Agence wallonne du Patrimoine (AWaP). (2018). <i>Guide pratique pour la restauration et l'entretien du patrimoine bâti</i> . Namur: AWaP.
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Architecture (Tournai)	ARCT1BA	5	LARCT1281 AND LARCT1262	