

4.00 credits

30.0 h + 15.0 h

Q2

Teacher(s)	Marino Giulia ;
Language :	French
Place of the course	Charleroi
Prerequisites	<p>LBARC1164</p> <p><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></p>
Main themes	<p>In Brussels, the teaching is cumulative and progressive, from the shell to the finishing details, while in Tournai construction and materials are taught in a global way; in this way, students can form logical groupings.</p> <p>This teaching unit describes the construction methods and assembly of complex walls which must respond to multiple requirements (structural, constructional, thermal, functional etc.). It links different technical disciplines and shows a range of different response to specific situations in architecture.</p>
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>The objective of this teaching unit is to generate the necessary skills to bring architectural objectives into line with how to translate them into material terms.</p> <p>Specific learning outcomes:</p> <p>By the end of the course, students will be able to</p> <ul style="list-style-type: none"> • be familiar with and refer to the physical and construction properties of the main materials and elements of construction. • be familiar with and refer to a wide range of elements of construction. • produce a budget for technical details combining the different requirements in building, insulation and waterproofing. • make use of technical documentation involved in construction techniques. • develop appropriate building proposals in relation to a simple architectural objective. <p>Contribution to the learning outcomes reference framework:</p> <p>Use the technical dimension</p> <ul style="list-style-type: none"> • Be familiar with and describe the main technical principles of building • Observe and assess the main construction principles of a building • Be able to apply the various basic technical principles in a producing a work of architecture <p>Express an architectural procedure</p> <ul style="list-style-type: none"> • Express ideas clearly in oral, graphic and written form
Evaluation methods	Students will therefore be able to carry out a constructive analysis of an existing building, based on a classification into constructive sub-systems, in order to transpose the principles into the architectural project.
Teaching methods	The teaching alternates between 'ex cathedra' lectures, visits to buildings and building sites, and constructive analysis work to be carried out throughout the term on a given building.
Content	<p>The various building systems are approached in terms of sub-systems (load-bearing structure, envelopes, partitions, piping). Reduced to a model, the sub-systems are described as chains of elements (roof, wall, foundation, etc.) and components (window, partition, etc.), in relation to the internal and external environmental (active and passive) and functional constraints which determine their choice and condition the nature of the assemblies.</p> <p>Construction operations and techniques are analysed both in relation to the resources and means available and in relation to their organisation over time, i.e. their implementation in the building. The course aims to grasp the role and nature of sub-systems, tracing the radical changes they underwent during the 20th century, and heralding current paradigms in the field of construction and the challenges of sustainability.</p> <p>An in-depth and systematic study of buildings considered to be 'innovative constructive events' is carried out by defining their constructive concept and, no less importantly, the specific nature of the building site.</p>
Inline resources	Moodle is the exchange platform for the course. All the information concerning the organisation of the course and the expectations are deposited there and will be updated throughout the term.

Bibliography	<ul style="list-style-type: none">• Andrea Deplazes, Constructing Architecture: Materials, Processes, Structures. A Handbook, Birkäuser, Bâle-Boston-Berlin, 2018• Jean-René Vittone, Bâtir. Manuel de construction, PPUR, Lausanne, 2010• Pierre Epron, L'architecture et la règle, Mardaga, Bruxelles, 1981• Yves Deforge, Le graphisme technique : son histoire et son enseignement, Editions Champ Vallon, 1981• Aymeric de Vigan, Jean de Vigan, Dicobat visuel, Arcature, 2019
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Architecture (Bruxelles)	ARCB1BA	4	LBARC1164	