UCLouvain

ltarc2065

2024

Architecture in question : architecture and technologies (part A)

8.00 credits	90.0 h	Q1

This biannual learning is being organized in 2024-2025

Teacher(s)	De Groote Geert ;Faux Pascaline ;Gallez Olivier ;
Language :	French > English-friendly
Place of the course	Tournai
Main themes	• Process of structure design: methods and tools • Exploration of the creative and innovative dimensions of structures • Integration of data on structure, construction and facilities in an architectural project
Learning outcomes	**At the end of this learning unit, the student is able to :** **Specific learning outcomes:** Students will explore and test out the principles which link architecture to its formal, material and temporal dimension. Students will be able to • approach certain specific methods of design. • manipulate certain tools of structural design. • develop a critical approach to available tools with a view to integrating them in architectural design. • integrate methods and tools linked to structure in the process of project design. • actively promote creativity in construction for the benefit of the project. **Contribution to the learning outcomes reference network:** **Build knowledge of architecture** • Be familiar with and analyse the discipline's basic references • Develop knowledge and become an active participant in the learning process **Make use of other subjects** 1 • Seek out other approaches, exchanges of views and ways of enhancing thinking about architecture **Use the technical dimension** • Be able to apply the various basic technical principles in producing a work of architecture • Acquire an instinctive understanding of structures to use in producing a creative and/or innovative work of architecture **Express an architectural procedure** • Identify the founding elements of a hypothesis or a proposal to express and communicate them **Adopt a professional attitude** • Listen to and identify the different needs and points of view of the different stakeholders to be able to bring these together in respect of the desired objectives **Make committed choices** • Activate and develop an ethical sense through approaches to architecture
Evaluation methods	**The entire research process constitutes the evaluation.** This process will be punctuated by 3 handovers at key moments: • presentation of phase 1 (reference analysis) (group work) - week 8 • presentation of phase 2 (transposition of reference) (group work) - January session • Group notebook due in January - January session Where applicable, students who have taken part in all 3 sessions but have not validated the AQ credits at the end of the first session may be admitted to a second session. Individual work will then be required in the form of a notebook to be submitted in the September session.

Teaching methods	• Theoretical presentations + discussions • Group work in workshops for exercises • Personal and group research
Content	This is an experiment in the coherence of technique (structure and construction) and architecture based on a building material. *Objectives :* • analyze an architectural reference in all its dimensions: architectural, constructive, structural, technical • study the material in all its dimensions and its relationship to its physical, economic and technical environment • Transpose an architectural idea to another material, another application, another context • become aware that structural choices and the implementation of construction methods enable the creative development of the architectural project. The course is divided into 2 parts : analysis of a reference (1) and transposition of the reference (2), punctuated by theoretical presentations (references (methodologies by example), stability versus materials: dimensioning stages, induction into structural software, sustainability criteria in structural design, etc.) and visits to construction companies.) and visits to companies that (pre-)manufacture construction materials. Some visits will be compulsory, others free, depending on the group....)
Inline resources	slideshows and documentations are downloadable on moodle
Bibliography	**• Construire en bois** T. Herzog, J. Nattere, R. Schweitzer, M. Volz, W. Winter, Birkhaüser, Birkhaüser, PPUR, 2012 **• Construire l'architecture** Andrea Deplazes, Birkhauser, **• Faire Tenir : Structure et Architecture** Marc Leyral, 2021 **• Form and Forces: Designing Efficient, Expressive Structures** Edward Allen & Waclaw Zalewsk, 2009 **• Franchir le vide. A pied et à vélo** Ney & Partners. Archibooks **• Informal** Cecil Balmond, Prestel, 2002 **• Mémoire d'un ingénieur** Peter Rice, Le Moniteur, Paris, 1998. **• Metamorphism, Material change in architecture** Akos Moravansky, Birkhäuser, Basel, 2018 **• Process and pattern in architecture and design** Luisa Collina, Silvana, 2016, Milano **• Question d'architecture Structure** Bernard Wittevrongel (dir), Projets 2016-2018, UCL LOCI 2019. **• Seven bridges by Jürg Conzett** Jürg Conzett, Zürich: Verlag Scheidegger & Spiess, 2013. **• Structure as Space** Mohsen Mostafavi, AA editions, 2006, London. **• Studies in Tectonic Culture** Kenneth Frampton, MIT Press, Cambridge, London, 1996. **• Wood and Wood Joints** Klaus Zwerger, Birkhäuser, Basel, 2000.
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Architecture (Tournai)	ARCT2M	8		🔍
Master [120] in Architecture (Bruxelles)	ARCB2M	8		🔍