UCLouvain

ltarc2162

2023

Construction materials and mechanical systems

3.00 credits	30.0 h	Q1

Teacher(s)	Laloux Olivier ;
Language :	French
Place of the course	Tournai
Main themes	This teaching unit is designed to develop transferable and practical skills in the fields of Construction, Materials and Facilities. In particular, it is designed to develop extensive familiarity with the documentation of technical, scientific and regulatory references and professional communication tools (specifications and graphic material). It also aims to develop a global overview of materials and techniques involved in the process of building.
Learning outcomes	**At the end of this learning unit, the student is able to :** This teaching unit particularly focuses on three axes in the profile of the holder of a Master's degree in Architecture: giving concrete expression to a technical dimension, making use of other disciplines and adopting a professional approach. **Specific learning outcomes:** By the end of this course, students will be able to • make use of technical, scientific and regulatory documentation relating to building materials and techniques and HVAC systems. • develop and comprehensive proposal for construction systems and facilities which is appropriate for the properties of a site and an architectural project. • manage complex construction projects (details), using the interface of different techniques. • produce documents conveying an architectural proposal to professionals (specifications, drawings, etc.). **Contribution to the learning outcomes reference network:** 1 **Use the technical dimension** • Be familiar with and interpret the main technical principles of construction • Observe and assess the main construction principles that give architecture a formal, material and temporal 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** • Express ideas clearly in oral, graphic and written form **Adopt a professional attitude** • Organise, plan, develop and bring together the different strands of individual or collective work • Test and observe the framework of professional practice and to architectural knowledge through independent involvement
Evaluation methods	• Written, drawing exam. • Continuous evaluation.
Teaching methods	• Lectures. • Case-studies. • Exercices.
Inline resources	The slideshows and all of the documents are available on moodle.

Bibliography	• Andrea Deplazes, *Construire l'architecture*, Birkhäuser, 2013, Bâle • Alexander Reichel, Kerstin Schultz, *Support I Materialise*, Birkhäuser, 2013, Bâle • Bert Bielefeld, *Basics building construction*, Birkhäuser, 2015, Bâle • Kenneth Frampton, Studies in Tectonic Culture, MIT Press, Cambridge, London, 1996. • Edward R. Ford The details of modern architecture. MIT Press Cambridge, London, 1994. • Peter Rice, Mémoire d'un ingénieur, Le Moniteur, Paris, 1998. • Cecil Balmond, Informal, Prestel, 2002 • STAIB, DÖRRHÖFER, ROSENTHAL, Components and Systems • Modular Construction Edition Detail Birkhäuser 2008
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	3		