


This biannual learning is being organized in 2022-2023

Teacher(s)	Capron Jean-Luc ;Gillis Christophe ;Rondeaux Jean-François ;Van Moeseke Geoffrey ;
Language :	French
Place of the course	Bruxelles Saint-Gilles
Main themes	<p>The Issues in Architecture: Materiality and Eco-Design course is designed to focus students' attention on the relationship between the overall construction and structure aspects of the envelopes and their details and the formal intentions of the architect. The refinement of construction details is an important part of the architect's role. And the current growth in demand for better environmental performance in construction increases the complexity of these details and influences their design. In addition, issues of sustainability of the life cycle of materials, buildings and the different human factors which are associated with this encourage rethinking of construction methods.</p> <p>The course covers the following four dimensions</p> <ul style="list-style-type: none"> <li>• Environment &amp; sustainable working</li> <li>• Quantitative analysis &amp; objectivisation of data</li> <li>• Qualitative options (design) &amp; constructive interaction</li> <li>• Human factors &amp; comfort (Module A) or Human factors &amp; construction (Module B).</li> </ul> <p>The Issues in Architecture: Materiality and Eco-Design course is made up of two modules (biennial).  <b>MODULE A</b> (biennial): '<b>Construction design and performance</b>'</p> <p>Carrying out an applied piece of construction research on the envelope of a building, with a strong association between formal and technical quality</p> <p>This module is designed to test out in depth, through the project and the production of technical graphic documents and rigorous analyses, the different aspects and requirements linked to technical quality and the environmental performance of a constructed envelope.</p> <p>The starting point is the choice of an existing building, for which students are invited to design an envelope. They need to clarify their formal intentions and produce the technical drawings which demonstrate this. They must also show the technical quality and the environmental performance of their proposal by compiling relevant references / data / qualitative and quantitative analyses.</p> <ul style="list-style-type: none"> <li>• The skills students will acquire or develop cover the following subject areas:</li> <li>• Technical quality of construction (waterproofing and airproofing, thermal and acoustic resistance, hygric behaviour etc.)</li> </ul> <p>Energy performance and physical atmospheres (lighting, acoustic, hygrothermal).  Please note: MODULE B explores the question of 'materiality &amp; prototype'.  Carrying out a piece of construction research on the basis of choosing a 'generic' material</p>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>This course form part of the group of teaching units on the construction conditions which make up an architectural project in a pre-existing or given construction and environmental context.</p> <p><b>Specific learning outcomes:</b></p> <p>The knowledge students will acquire from <i>Module A: Construction design and performance</i> include the following skills :</p> <ul style="list-style-type: none"> <li>• <b>Technical quality of construction</b> : by the end of this course, students will be able to put together a technical reference folder showing the technical quality of an architectural project (waterproofing and airproofing, thermal and acoustic resistance, hygric behaviour etc.)</li> <li>• <b>Energy performance and physical atmosphere</b> : by the end of this course, students will be able to include in their design process repeated review of the proposal as outlined in the drawing and how this translates effectively into energy performance and the physical atmosphere(s) created.</li> </ul> <p><b>Contribution to the learning outcomes reference network:</b></p> <p><b>Design a project</b></p> <ul style="list-style-type: none"> <li>• <i>Express and prioritise the aims of the projects so as to be able to make choices</i></li> </ul> <p><b>Build knowledge of architecture</b></p>

	<ul style="list-style-type: none"> <li>• <i>Be familiar with and analyse the discipline's basic references</i></li> </ul> <p><b>Make use of other subjects</b></p> <ul style="list-style-type: none"> <li>• <i>Seek out other approaches, exchanges of views and ways of enhancing thinking about architecture</i></li> </ul> <p><b>Adopt a professional attitude</b></p> <ul style="list-style-type: none"> <li>• <i>Test and observe the framework of professional practice and to architectural knowledge through independent involvement</i></li> </ul> <p><b>Use the technical dimension</b></p> <ul style="list-style-type: none"> <li>• <i>Be able to apply the various basic technical principles in producing a work of architecture</i></li> </ul>
Bibliography	<p>Pour chacune des dimensions théoriques abordées lors des séminaires, un support de synthèse sera transmis aux étudiants, avec vocation de constituer un réel outil de travail.</p> <p>Les manuels d'utilisation des logiciels concernés seront rendus disponibles.</p> <p>Les ressources de la bibliothèque, en particulier les revues d'architecture connues pour développer les aspects techniques de la construction (Détails, etc)</p>
Faculty or entity in charge	LOCI

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Architecture (Tournai)	ARCT2M	8		
Master [120] in Architecture (Bruxelles)	ARCB2M	8		