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| Teacher(s)          | Sgambi Luca ;  |
| Language :          | French   |
| Place of the course | Tournai  |
| Main themes         | <p>This teaching unit forms part of continuous learning on structures and their behaviour.</p> <ul style="list-style-type: none"> <li>• Load, overload and stresses in buildings</li> <li>• Soil mechanics: definition, components and structure of the soil, law of fundamental behaviour, action of water, constraints and balances including earth pressures, unstable soils and landslides</li> <li>• Direct and deep foundations</li> <li>• Supports: slopes, retaining walls, shoring and anchors</li> </ul> <p>Advanced study:</p> <ul style="list-style-type: none"> <li>• Prefabricated structures in concrete : process of design and choice of construction system, general stability and bracing, pre-stressed flat and ribbed floor elements, joints and brackets</li> <li>• Complex and large scale/storeyed structures : design and conditions for implementation, including foundations</li> </ul> <p>These topics are studied with the aim of experiencing the professional practice of the engineering consultant in the field of building stability.</p>  |
| Learning outcomes   | <p><b>At the end of this learning unit, the student is able to :</b></p> <p><b>Specific learning outcomes:</b></p> <p>By the end of this teaching unit, students are able to</p> <ul style="list-style-type: none"> <li>• describe and critically analyse the mechanical working of building structures as a driver of an efficient work of architecture.</li> <li>• assess the specific issues raised by the design of a structure so as to make sensible, coherent and rational choices.</li> <li>• assess the technical and construction principles to be developed for large scale structures; assess the methods and conditions of implementation.</li> <li>• analyse and make use of technical documents.</li> <li>• enter into a professional dialogue with an engineer using knowledge of structures rigorously : communicate an architectural project with the use of plans, presentations or other documents adapted with a view to posing questions about the project and developing it.</li> </ul> <p><b>Contribution to the learning outcomes reference network:</b></p> <p><b>Use the technical dimension</b></p> <ul style="list-style-type: none"> <li>• Be familiar with and interpret the main technical principles of construction</li> <li>• Be able to apply the various basic technical principles in producing a work of architecture</li> </ul> <p><b>Make committed choices</b></p> <ul style="list-style-type: none"> <li>• Understand the merits of an idea which can lead to the objectives to be achieved by the project; follow through with determination, even by means of a modest intervention, the implementation of this idea and the achievement of these objectives</li> </ul> |
| Evaluation methods  | Each student's final rating is the average of two ratings. The first evaluation concerns a structural design work on a design problem assigned by the teacher at the beginning of the course. This work can be done in groups. The second evaluation concerns a written examination on the topics carried out in the classroom. On both assessments, the teacher sets a minimum threshold of 6/20 below which the student cannot have a positive final assessment.   |
| Teaching methods    | The course includes a part of theoretical lessons ex-cathedra, a part of the course dedicated to exercises and the development of a structural design exercise.  |
| Inline resources    | To support the course, the teacher provides tutorials that can cover all the topics discussed. All tutorials are available by MOODLE.  |
| Other infos         | More detailed information about the course and evaluation procedures will be explained during the first lesson and will be contained in the "Plan du cours" (downloadable from MOODLE).  |

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| Faculty or entity in charge | LOCI |
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| Programmes containing this learning unit (UE) |         |         |              |   |
|---|---------|---------|--------------|---|
| Program title                                 | Acronym | Credits | Prerequisite | Learning outcomes   |
| Master [120] in Architecture (Tournai)        | ARCT2M  | 4       |              |  |