

5.0 credits	30.0 h + 45.0 h	1q
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Teacher(s) :	Evrard Cédric ; Faux Pascaline ;
Language :	Français
Place of the course	Tournai
Aims :	<i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Evaluation methods :	Theorie and eLearning : multiple choice quiz. Exercices : continuous evaluation focused on collaboration and communication around issues of building structure.
Teaching methods :	Theorie : Lecture. eLearning : Critical analysis and presentation of a reference text. Exercices : open book exercises and peer review.
Content :	<p>Théorie : Résistance des matériaux, calcul des structures et analyse de typologies constructives.</p> <ol style="list-style-type: none"> <li>1. General planning and design and lateral loading</li> <li>2. Materials : microscopic approach (wood and steel)</li> <li>3. Deformations (elastic and plastic), combined bending, buckling,</li> <li>4. Cables and membranes (Satellite / guyed / stabilization)</li> <li>5. Arches, cupolas, frame optimization, geodesic domes ....</li> <li>6. Rigid frames, continuous beam, slabs,</li> <li>7. Soil (retaining walls, slope ...)</li> </ol> <p>Exercices : Enoncés complexes calqués sur des cas réels. General planning and design. Funicular structure.</p>
Bibliography :	<p>-- Allen E., Zalewski W., Form and Forces, Designing efficient, expressive structures, Boston, Wiley, 2010 -- Muttoni A., L'art des structures, Lausanne, PPUR, 2004 -- Studer M-A. &amp; mp; Frey Fr., Introduction à l'analyse des structures, Lausanne, PPUR, 1997 -- Schodek D., Bechthold M., Structures, sixth edition, Pearson Prentice Hall, 2008 -- Gordon J., Structures et matériaux, Pour la science, Belin, 1994</p>
Cycle and year of study :	<a href="#">&gt; Bachelor in Architecture (Tournai)</a>
Faculty or entity in charge:	LOCI