

5.0 credits	20.0 h + 45.0 h	1q
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Teacher(s) :	Faux Pascaline ;
Language :	Français
Place of the course	Tournai
Prerequisites :	<i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
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 :	Oral exam theory and exercices based on the understanding of mechanical phenoma
Teaching methods :	Theory -- magistral lessons in auditorium Exercices -- two students groupworks and peerlearning Laboratory -- conception of a small bridge: mechanical principles, test model
Content :	Theory: Strength of materials, structural design and analysis of constructive typologies -- Tension: Cables and membranes -- Compression: Arches and domes -- Materials: behavior, atomic bonds, steel and wood -- Mechanical flexion, deformation (elastic and plastic), combined bending, left bending, indeterminate beams, buckling, shear -- Load study and bracing Exercices: Complex study modeled on real cases -- Funicular structur -- Load study and bracing Laboratory: Conception of a small bridge -- Analysis of his mechanical principles. -- Building of a model and crash test
Bibliography :	Allen E., Zalewski W., Form and Forces, Designing efficient, expressive structures, Boston, Wiley, 2010 Muttoni A., L'art des structures, Lausanne, PPUR, 2004 Salvadori M., Comment ça tient ?, Editions Parenthèses, 2005 Studer M-A. & 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
Faculty or entity in charge:	LOCI

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Bachelor in Architecture (Tournai)	ARCT1BA	5	LTARC1143 and LTARC1160	