

2.00 credits	15.0 h + 10.0 h	Q1
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Teacher(s)	Fisette Paul ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	Equilibrium of systems of rigid bodies Internal loads Stresses and strains Principle of virtual work, as applied to static systems. Application of the above to the specific case of loaded beams and trusses
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>At the outcome of this course, students are expected to : - know about the various types of external and internal joints and supports, as well as the related degrees of freedom - understand the meaning of total and partial isostaticity and hyperstaticity - be able to apply virtual work principles in solving problems of statics - be able to determine internal loads and stresses and strains in a beam, as well as the resulting sizing of the beam</p>
Evaluation methods	Written exam: theory and exercises
Teaching methods	Theoretical course and exercise sessions
Content	- Graphical methods in statics - Research of static equilibrium by the technique of the potential power principle (PPP) and Lagrange's equations - Notion of dry friction and arch-buttress: application in the field of mechanisms, vehicles - Recall of the beam theory (supports and internal forces) and calculation of the beam deflection.
Inline resources	On Moodle: https://moodle.uclouvain.be/course/view.php?id=1799
Other infos	Prerequisites : FSAB 1201 (Physics 1) or an equivalent course FSAB 1202 (Physics 2) or an equivalent course
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Engineering : Architecture	ARCH1BA	2		