UCLouvain

licar1711

2018

Advanced Statics

2 credits	15.0 h + 10.0 h	Q1

Teacher(s)	Fisette Paul ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	*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.*
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
Aims	1 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 - - - - *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".*
Content	- Graphical methods in statics - Trusses - Internal loads in loaded rigid bodies - Traction and compression : stresses and strains - Bending : stresses and strains - Torsion : stresses and strains - Loaded beams : strength and deformation sizing - Principle of virtual work applied to static systems.
Other infos	Prerequisites : FSAB 1201 (Physics 1) or an equivalent course FSAB 1202 (Physics 2) or an equivalent course FSAB 1203-A (Physics 3) or an equivalent course FSAB 1101 (Mathematics 1) or an equivalent course FSAB 1102 (Mathématiqcs 2) or an equivalent course Assessment : Written examination, centred on problem solving. References : Instructors' course notes
Faculty or entity in charge	LOCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Engineering : Architecture	ARCH1BA	2	LEPL1101 AND LEPL1102 AND LEPL1105 AND LEPL1201 AND LEPL1202	