

5.0 credits	30.0 h + 30.0 h	2q
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Teacher(s) :	Delannay Laurent ; Raucent Benoît (coordinator) ; Ronsse Renaud ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Basics of dimensioning. Dimensioning criteria (static and dynamic strength, deformation, wear, corrosion,) Description and modelling of machine components.
Aims :	Teach students to design all types of current machine components. Develop their know-how as regards synthesis and setting-up of simple models allowing final dimensioning. <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>
Content :	Philosophy of machine component design and review of basic prerequisites. Dimensioning of machine components : - Fixed assemblies (bolts, binding, welding,) - Moving assemblies (journal bearings, lubrication, roller bearings,) - Transmissions and intermittent assemblies (power screws, gears, clutches, brakes, belts, chains, springs, hydraulic transmissions,) Various practical problems are studied during tutorials.
Other infos :	Prerequisites : Kinematics and dynamics of machinery (MECA 2795), design of machinery (MECA 2825), elasticity, materials science. Reference (compulsory textbook) : R.C. Juvinall and K.M. Marshek Fundamentals of Machine Component Design, Wiley, 1991 Assessment : two-tier exam : theory (no reference books allowed), problems (with reference books).
Cycle and year of study :	> Master [120] in Mechanical Engineering > Master [120] in Electro-mechanical Engineering
Faculty or entity in charge:	MECA