LMECA2453

2013-2014

Compléments de fabrication mécanique et FAO

5.0 credits	30.0 h + 30.0 h	1q

Teacher(s) :	Debongnie Jean-François ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	> http://icampus.uclouvain.be/claroline/course/index.php?cid=LMECA2453
Prerequisites :	-- LMECA 1451 (Mechanical Manufacturing)
Main themes :	-- Complements on cutting processes. -- Cutting process design. -- Non conventional processes. -- Introduction to numerically controlled machining. -- Form errors due to the machining process.
Aims :	A more complete knowledge of cutting parameters. Mastering the cutting process design of a work. Knowing and having practicized the numerical control of a machine tool. Knowing the existency and the application domain of non conventional processes. Being able to predict and to measure the form errors due to the cutting process. *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".*
Evaluation methods :	-- Oral exam -- produced work presentation
Teaching methods :	-- Ex cathedra course. -- Practice at the workshop.
Content :	-- Tolerances and roughness : a review. -- Manufacturing dimensioning and cutting process simulation. -- Residual stresses and their effects. -- Work fixture on the machine. -- Numerically commanded machine tools and ISO programming. -- Cutting parameters optimization. -- Non conventional processes. -- Form error prediction methods, analytical and by F.E.M. -- Form error assessment, strictly following ISO standards. -- Actual manufacturing on a numerically controlled machine tool.
Bibliography :	-- Usinage, author : J.F. Debongnie ; lecture notes

Cycle and year of study :	> Master [120] in Mechanical Engineering
Faculty or entity in charge:	MECA