

6.0 credits	45.0 h	2q
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Teacher(s) :	Gran Marino ; Vitale Enrico ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	LMAT 2150 Category Theory
Main themes :	1) Topos theory : Grothendieck topos, Lawvere topos, localizations. 2) Categorical model theory : accessible categories, locally presentable and locally finitely presentable categories, algebraic categories. 3) Monads, comonads and their applications. 4) Protomodular, homological and semi-abelian categories. 5) Categorical Galois theory 6) Higher order categorical algebra
Aims :	The aim of this course is a thorough study of some, classical or more recent subjects in category theory. Applications to algebra, algebraic geometry, algebraic topology and universal algebra are also discussed. <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>
Bibliography :	J. Adámek, J. Rosický, E.M. Vitale : Algebraic theories, Cambridge University Press 2011. - F. Borceux : Handbook of categorical algebra, Cambridge University Press 1994. - F. Borceux, D. Bourn : Malcev, protomodular and semiabelian categories, Kluwer, 2004. - F. Borceux, G. Janelidze : Galois theories, Cambridge University Press 2001. - S. Mac Lane : Categories for the working mathematician, Springer-Verlag 1972.- S. Mac Lane : Homology, Springer-Verlag 1975.- S. Mac Lane, I. Moerdijk : Sheaves in geometry and logic, Springer-Verlag 1992.
Cycle and year of study :	> Master [120] in Mathematics
Faculty or entity in charge:	MATH