UCL Université catholique de Louvain

LSTAT3100

2015-2016

Probability and mathematical statistics

6.0 credits	30.0 h	1q

Teacher(s) :	Van Keilegom Ingrid ; Segers Johan ;
Language :	Anglais
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 :	The course covers the asymptotic theory in parametric inference, M- and Z- estimators, U-statistics, empirical processes and the functional delta method. In a second part of the course, these tools are applied in modern special topics of mathematical statistics such as, e.g., extreme value theory, ill-posed inverse problems,
Aims :	This course covers the necessary tools in asymptotic statistics in order to perform modern research in statistics. *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 :	Contents 1. Stochastic convergence 2. Delta method and moment estimators 3. Projections and U-statistics 4. Empirical processes 5. M- and Z-estimators 6. Capita selecta on a modern research topic in statistics Methods Lectures Take-home readings Oral presentations by students
Other infos :	Prerequisites: Analyse statistique (MATH2440) Evaluation: Oral presentations during the semester, and oral or written exam covering the lectures. Support: A syllabus and/or transparencies. Supplementary literature: Serfling, R. J. (1980) Approximation Theorems of Mathematical Statistics. Wiley, New York. van der Vaart, A. (1998) Asymptotic Statistics. Cambridge University Press, Cambridge.
Faculty or entity in charge:	LSBA

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
	STAT9CE	6	-	
Master [120] in Statistics: General	STAT2M	6	LANGL1330 **and** LSTAT2040	
	STAT2FC	6	-	