








In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

4 credits	15.0 h + 5.0 h	Q1
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Teacher(s)	von Sachs Rainer ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	Main themes The topics treated during this course are : 1. Nonparametric estimation of a distribution function 2. Nonparametric estimation of a density function : the kernel method 3. Nonparametric estimation of a regression function : - kernel estimation - local polynomial estimation - spline estimation The material will essentially be treated from an applied point of view of methodology. The student will study software applications of the proposed methods.
Aims	<p>1 Second course of general education in nonparametric statistics, which mainly focuses on smoothing methods.</p> <p>-----</p> <p><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></p>
Bibliography	<p>Fan, J. et Gijbels, I. (1996). Local polynomial modelling and its applications. Chapman & Hall, New York.</p> <p>Green, P.J. et Silverman, B.W. (2000). Nonparametric regression and generalized linear models. Chapman & Hall, New York.</p> <p>HÄRDLE, W. (1990): Applied Nonparametric Regression. Cambridge University Press, Cambridge.</p> <p>Hart, J.D. (1997). Nonparametric smoothing and lack-of-fit tests. Springer, New York.</p> <p>Loader, C. (1999). Local regression and likelihood. Springer, New York.</p> <p>Silverman, B.W. (1986) : Density Estimation for Statistics and Data Analysis. Chapman and Hall, London.</p> <p>Simonoff, J.S. (1996). Smoothing methods in Statistics. Springer.</p>
Other infos	Prerequisites Basic knowledge about probability and statistics: descriptive statistics, calculating probabilities, distribution function, probability density, means, variances (conditionally or not), linear regression. It is advisable (but not necessary) to follow the course STAT2140 before.
Faculty or entity in charge	LSBA

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Data Science Engineering	DATE2M	4		
Master [120] in Data Science : Statistic	DATS2M	4		
Master [120] in Mathematical Engineering	MAP2M	4		
Master [120] in Statistic: Biostatistics	BSTA2M	4		
Certificat d'université : Statistique et sciences des données (15/30 crédits)	STAT2FC	4		
Master [120] in Data Science: Information Technology	DATI2M	4		
Master [120] in Economics: General	ECON2M	5		
Master [120] in Statistic: General	STAT2M	4		