LSTAT2040

2015-2016

Statistical analysis

5.0 credits	30.0 h + 15.0 h	2q

Teacher(s) :	Van Keilegom Ingrid ; El Ghouch Anouar ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	General presentation of the statistical model. Sufficient statistic and exponential family. Theory of point estimation: use for sufficiency and completeness. Construction of estimators: maximum likelihood method, asymptotic equivalence. Construction of confidence regions: exact and asymptotic regions. Theory of hypothesis tests: Neyman-Pearson lemma, likelihood ratio tests, Rao statistic, Wald statistic. Applications to the exponential family models, and to problems encountered in the first cycle course.
Aims :	Second cycle course of general education in mathematical 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".*
Other infos :	Support: - Von Sachs R., Analyse statistique, syllabus of MATH 2440, Institut de statistique, UCL, Louvain-la-Neuve, 2000. - Montfort A., Cours de statistique mathématique, Economia, Paris, 1982. - Lehmann E.L., Casella G., Theory of point estimation, 2nd edition, Springer, 1988. - Lehmann E.L., Testing statistical hypothesis, 2nd edition, Springer, New York, 1997.
Faculty or entity in charge:	LSBA

Programmes / formations proposant cette unité d'enseignement (UE)

Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Statistics: Biostatistics	BSTA2M	5	-	
Master [120] in Statistics: General	STAT2M	5	-	
	STAT9CE	5	-	
Master [120] in Mathematical Engineering	MAP2M	4	-	
Master [120] in Mathematics	MATH2M	5	-	
Minor in Statistics	LSTAT100I	5	-	
Additionnal module in Mathematics	LMATH100P	5	-	
	STAT2FC	5	-	