LSTAT2200

2010-2011

Survey and Sampling

4.0 credits	15.0 h + 5.0 h	2q

Teacher(s) :	Kestemont Marie-Paule ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Topics to be treated - General framework of inference in finite population; population, sampling, statistics for the inference based on experimental data, linear homogenous estimation: elementary units, complex units. - Sampling with unequal probabilities: Hansen-Hurwitz and Horvitz-Thompson estimators, for the particular case of simple random sampling. - Estimators improvement through auxiliary information: ratio estimator, regression estimator - Sampling from complex units: stratified sampling, cluster sampling, two stages sampling. - Sampling from biological populations: basic issues in sampling, estimation of the population size.
Aims :	Objective (in terms of abilities and knowledge) This course aims at providing the student the basic knowledges on the sampling methods, with a particular, but not exclusive, emphasis on sampling from (finite) human populations. At the end of the course, the student should be able to correctly designing a simple survey and analysing the results. *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 :	Summary: Content and methods - General framework of inference in finite population; population, sampling, statistics for the inference based on experimental data, linear homogenous estimation: elementary units, complex units. - Sampling with unequal probabilities: Hansen-Hurwitz and Horvitz-Thompson estimators, for the particular case of simple random sampling. - Estimators improvement through auxiliary information: ratio estimator, regression estimator - Sampling from complex units: stratified sampling, cluster sampling, two stages sampling. - Sampling from biological populations: basic issues in sampling, estimation of the population size.
Other infos :	Basic references: - Mouchart, M. and J.-M. Rolin (1981), Enquêtes et sondages, Série "Recyclage en Statistique, Vol.5, U.C.L. Louvain : Comité de statistique. - Lohr, Sharon L. (1999), Sampling : Design and Analysis, Duxburry Press: Brooks/Cole Publishing Company. - Rao Poduri, S.R.S. (2000), Sampling Methodologies with Applications, London: Chapman and Hall.
Cycle and year of study :	> Master [120] in Economics: General > Master [120] in Mathematics > Master [120] in Statistics: General > Master [120] in Statistics: Biostatistics > Certificat universitaire en statistique
Faculty or entity in charge:	LSBA