UCL Université catholique de Louvain

LBIRE2101

2010-2011

Statistical analysis of spatial and temporal data

3.0 credits	22.5 h + 15.0 h	2q

Teacher(s) :	Bogaert Patrick ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Notions of spatial/temporal dependency and its effect on statistical estimation. Quantification and modelling of dependencies through space and time. Random fields theory. Prediction and simulation of correlated data. Mapping and forecasting methods.
Aims :	This course will complete the basic notions already presented during the courses BIR 1203 - Probability and Statistics (I) and BIR 1304 - Probability and Statistics (II). The student will be able to analyze data that are correlated through space and time, these data being frequently encountered in the agro-environmental field. The course will put the emphasis on the link between the general theory and the practical specificities of environmental data. It should allow the student to model such kind of processes and to use them in a mapping or forecasting context *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 :	This course will complete the basic notions already presented during the courses BIR 1203 - Probability and Statistics (I) and BIR 1304 - Probability and Statistics (II). The student will be able to analyze data that are correlated through space and time, these data being frequently encountered in the agro-environmental field. The course will put the emphasis on the link between the general theory and the practical specificities of environmental data. It should allow the student to model such kind of processes and to use them in a mapping or forecasting context. Practical exercises using Matlab software will take place in the computer room.
Other infos :	This course follows the BIR 1203 and BIR 1304 courses. There will be a written examination. Support is a set of slides and additional notes.
Cycle and year of study :	> Master [120] in Geography : General > Master [120] in Geography : Climatology > Master [120] in Biology of Organisms and Ecology > Master [120] in Statistics: Biostatistics > Certificat universitaire en statistique > Master [120] in Environmental Bioengineering > Master [120] in Forests and Natural Areas Engineering > Advanced Master in Water Resources > Master [120] in Civil Engineering
Faculty or entity in charge:	AGRO