LSTAT2230

2016-2017

Advanced survival models

3.0 credits	15.0 h	2q

Teacher(s) :	Legrand Catherine ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Prerequisites :	The content of the course LSTAT2220 Survival Data Analysis is a prerequisite for this course. The student should be familiar with the basis of analysis of survival data, including the definition, estimation and interpretation of the survival function and of the (cumulative) hasard function, and of the most commonly used regression models (parametric proportional hasards models, semi-parametric Cox model, Accelerated Failure Time model, ') for independent survival data
Main themes :	Classical survival analyses techniques assume that (1) the observations are independent, (2) if followed long-enough all observations will eventually experience the event of interest, and (3) only one event is of particular interest and no other event may prevent this event to occur. In this course, we will investigate other models which are applicable for correlated observations (frailty models), models which allow to consider the case when a proportion of the population will never experience the event of interest (cure models), and models to be applied in the case of competing risks (competing risks models) or of several events of interest (multi-state models)..
Aims :	The objectives of the course are to provide each year a comprehensive exposition of one or more specific topic(s) of special interest in the field of biostatistics. *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 :	The following models will be studied : frailty models, mixture cure models and promotion time models, competing risks models, competing risks models. Main estimation techniques (parametric and/or semi-parametric models) will be presented, as well as their implementation in standard statistical software (when available). Cases of applications of these models will be studied and interpretation of these models will be discussed.
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	3	-	🔍
Master [120] in Statistics: General	STAT2M	3	-	🔍
	STAT2FC	3	-	🔍