Faculty of Sciences

MAT1371 Probability

[30h+22.5h exercises] 5 credits

This course is taught in the 1st semester

Teacher(s):   Jean-Marie Rolin, Johan Segers
Language: French
Level: First cycle

Aims

The course aims to give a basic knowledge of probability theory. It is an introduction to the main tools that are necessary to tackle the big problems of statistical analysis and stochastic processes. After this course, the student will be able to calculate conditional and non-conditional expectations and to study the convergence of sequences of random variables (including asymptotic law).

Main themes

The course requires a knowledge of measure theory. It covers the essential tools necessary for the study of statistics.
The following topics are covered :
Random variables, dependence and independence.
Expectations and conditional probability.
Convergence of sequences of random variables.
Martingales.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisite : MAT 1322: Measure theory

Other credits in programs

FSA13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(5 credits)	
MAP22	Deuxième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(5 credits)	
MATH13BA	Troisième année de bachelier en sciences mathématiques	(5 credits)	Mandatory
STAT21MS/MM	Première année du master en statistique, orientation générale, à finalité spécialisée (méthodes mathématiques)	(5 credits)	
STAT22MS/MM	Deuxième année du master en statistique, orientation générale, à finalité spécialisée (méthodes mathématiques)	(5 credits)	