UCL Université catholique de Louvain

LINMA2470

2012-2013

Discrete stochastic models

5.0 credits	30.0 h + 22.5 h	2q

Teacher(s) :	Chevalier Philippe ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Introduction to stochastic models in operations research. Study of renewal processes, Markov chains, Markov Processes, Markov Decision Processes. Applications to inventory models, queuing models, branching processes, random walks, etc.
Aims :	Introduction to stochastic processes used for modeling random systems and their most common applications. In particular we study methods to compute the operating characteristics of such processes. *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 :	- Introduction to stochastic processes with a discrete state-space - Discrete time Markov chains with finite and infinite state-space - Continuous time Markov processes (and semi-Markov processes) - Renewal processes and stopping rules - Poisson processes, birth and death processes - Queuing theory and queuing networks - Various applications such as inventory models, maintenance models, reliability, job-shops,
Other infos :	no special information
Cycle and year of study :	> Master [120] in Electrical Engineering > Master [120] in Computer Science and Engineering > Master [120] in Computer Science > Master [120] in Mathematical Engineering > Master [120] in Statistics: General
Faculty or entity in charge:	MAP