

5.0 credits	30.0 h + 22.5 h	2q
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Teacher(s) :	Jungers Raphaël ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	Prerequisite : notions of optimization, especially linear, and of probabilities.
Main themes :	Operations research proposes conceptual models in order to analyze complex situations and to allow decision-makers to take the most efficient choices. These models, deterministic or random, allow a quantitative analysis of organizational and industrial management problems occurring in a wide variety of situations.
Aims :	To be able to use operations research tools allowing to model and to solve organizational and industrial management problems. <i>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".</i>
Content :	The course will tackle the following issues : - Deterministic and stochastic dynamic programming - Optimal resources allocation, optimal location - Planning and scheduling - Production and stockpile control, supply chains management, logistics - Reliability, dependability and equipment renewal - Portfolio management models, risk criteria - Introduction to game theory - Simulation techniques It will take particular care of their articulation with the degree courses in applied mathematics and more specifically with the following courses : optimization (INMA1702 and INMA2471), graph theory (INMA1691) and discrete stochastic models (INMA2470).
Cycle and year of study :	> Master [120] in Mathematical Engineering
Faculty or entity in charge:	MAP