mqant1328

2024

Operational Research

5.00 credits	30.0 h + 15.0 h	Q2

Teacher(s)	Tancrez Jean-Sébastien ;
Language :	French
Place of the course	Mons
Prerequisites	• Linear programming • Basics in probability *The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	• Multi-objective optimization • Multi-criteria decision support methods • Stochastic modeling and uncertainty management • Queuing theory
Learning outcomes	**At the end of this learning unit, the student is able to :** Given the « competencies referential » linked to the LSM Bachelor in Management and Business Engineering, this course mainly develops the following competencies: • 2. Acquire a knowledge base • 3. Apply a scientific approach • 6. Become a team player • 8. Communicate 1 At the end of the class, the student will be able to: • make decisions on a quantitative basis in a digital world • analyze an optimization problem with multiple criteria • find the balance between several discordant goals • apply appropriate techniques to assist in decision-making in the presence of multiple criteria • understand the impact of uncertainty on operational problems • model simple systems influenced by hazards • discover the optimal policy to choose in an uncertain environment
Bibliography	• HILLIER F.S. and LIEBERMAN G.J. (2010), Introduction to Operations Research, 9th edition, McGraw-Hill. • WINSTON W.L. (2004), Operations Research : Applications and Algorithms, Duxbury Press. • POMEROL J.C., BARBA-ROMERO S. (1993), Choix multicritère dans l'entreprise, Hermes.
Faculty or entity in charge	CLSM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor : Business Engineering	INGM1BA	5	MQANT1227	🔍