



5.00 credits	30.0 h	Q1
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Language :	French
Place of the course	Mons
Prerequisites	Statistics
Main themes	<ul style="list-style-type: none"> • Introduction to Data Mining • Knowledge discovery process • Decision tree : algorithms CART and ID3 • Cross-validation, bootstrap • Tree pruning • Bagging, boosting, arcing • Random forest • ROC curves • Market basket analysis • Neural network • Cluster analysis : Hierarchical methods, K-means • Rough sets • Trends in data mining • Software : TANAGRA et SAS enterprise Miner • Applications
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>At the end of this learning unit, the student is able to:</p> <ol style="list-style-type: none"> 1 • Extract knowledge contained in large volumes of data from real data and using data mining software such as SAS enterprise Miner and TANAGRA; • Interpret the results provided by such software; • Describe the principles of supervised and unsupervised learning methods seen in the course; • Use the appropriate methods to deal with a given problem; • Read and understand research articles related to a management problem and using data mining methods.
Teaching methods	<ul style="list-style-type: none"> • Lectures • Course-related exercises • Use of software • Case studies
Bibliography	<ul style="list-style-type: none"> • HAN J., KAMBER M. (2006), Data mining: concepts and techniques, 2nd ed. Morgan Kaufmann. • TUFFERY S. (2007), Data Mining et statistique décisionnelle : l'intelligence dans les bases de données, Technip.
Faculty or entity in charge	CLSM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] : Business Engineering	INGE2M	5		
Master [120] : Business Engineering	INGM2M	5		
Master [120] in Management (with work-linked-training)	GESA2M	5		