


5.00 credits

30.0 h

Q1

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

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] : Business Engineering	INGE2M	5		
Master [120] : Business Engineering	INGM2M	5		