

5.00 credits	30.0 h + 15.0 h	Q1
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Teacher(s)	Fouss François ;Hazée Simon (compensates Fouss François) ;
Language :	French
Place of the course	Mons
Prerequisites	/
Main themes	<p>Nowadays, data is everywhere. For most organisations, potentially every area of their business, as well as every relationship related to their business, can now be quantified and recorded. Such a large amount of data has led to the emergence of powerful methods for storing, processing, querying, and extracting useful information/knowledge from this data.</p> <p>This course will focus on methods for understanding, designing, managing, preparing, modelling, querying, and visualising data, as a global means for the organisation to make better decisions. As a central element in data analytics, methodology, modelling and reporting will play an important role in this course.</p> <p>The main topics of this course are :</p> <ul style="list-style-type: none"> <li>• Main tasks in data analytics (descriptive, predictive, prescriptive);</li> <li>• Methodology for data analysis;</li> <li>• Applications and use cases of data analytics;</li> <li>• Reporting.</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p><b><u>Learning Outcomes (LO) at the end of the learning unit</u></b></p> <p>At the end of this learning unit, the student is able to :</p> <p>1</p> <ul style="list-style-type: none"> <li>• Understand the key issues in data analysis;</li> <li>• Apply a robust methodology in data analytics projects;</li> <li>• Propose quality reporting for decision-making purposes.</li> </ul>
Bibliography	<p><b>Sources potentielles :</b></p> <p>Provost &amp; Fawcett (2013) 'Data science for business'. O'Reilly.</p> <p>Sherman (2014) 'Business intelligence guidebook: from data integration to analytics'. Morgan Kaufmann.</p> <p>Efraim, Sharda &amp; Delen (2010) 'Decision support and business intelligence Systems'. Pearson.</p> <p>Leskovec, Rajaraman &amp; Ullman (2014) 'Mining of massive datasets, 2<sup>nd</sup> ed'. Cambridge University Press.</p> <p>Kelleher, Mac Namee &amp; D'Arcy (2015) 'Fundamentals of machine learning for predictive data analytics. MIT Press.</p> <p>Hastie, Tibshirani &amp; Friedman (2009), "The elements of statistical learning, 2<sup>nd</sup> ed". Springer-Verlag.</p> <p>Izenman (2008), 'Modern multivariate statistical techniques: regression, classification, and manifold learning. Springer.</p> <p>Bellanger &amp; Tomassone (2014), "Exploration de données et méthodes statistiques : data analysis &amp; data mining avec le Logiciel R". Ellipses.</p>
Faculty or entity in charge	CLSM

**Programmes containing this learning unit (UE)**

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] : Business Engineering	INGM2M	5		