	vain mismm2	116		Data Analytics
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[5.00 credits	30.0 h + 15.0 h	Q1	

Teacher(s)	Fouss François ;Hazée Simon (compensates Fouss François) ;				
Language :	French				
Place of the course	Mons				
Prerequisites	1				
Main themes	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. 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. The main topics of this course are : • Main tasks in data analytics (descriptive, predictive, prescriptive); • Methodology for data analysis; • Applications and use cases of data analytics; • Reporting.				
Learning outcomes	At the end of this learning unit, the student is able to : Learning Outcomes (LO) at the end of the learning unit At the end of this learning unit, the student is able to : ¹ • Understand the key issues in data analysis; • Apply a robust methodology in data analytics projects; • Propose quality reporting for decision-making purposes.				
Bibliography	Sources potentielles : Provost & Fawcett (2013) 'Data science for business'. O'Reilly. Sherman (2014) 'Business intelligence guidebook: from data integration to analytics'. Morgan Kaufmann. Efraim, Sharda & Delen (2010) 'Decision support and business intelligence Systems'. Pearson. Leskovec, Rajaraman & Ullman (2014) 'Mining of massive datasets, 2 nd ed'. Cambridge University Press. Kelleher, Mac Namee & D'Arcy (2015) 'Fundamentals of machine learning for predictive data analytics. MIT Press. Hastie, Tibshirani & Friedman (2009), "The elements of statistical learning, 2 nd ed". Springer-Verlag. Izenman (2008), 'Modern multivariate statistical techniques: regression, classification, and manifold learning. Springer. Bellanger & Tomassone (2014), "Exploration de données et méthodes statistiques : data analysis & data mining avec le Logiciel R". Ellipses.				
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		هر				