







5.00 credits	30.0 h	Q1
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Teacher(s)	Jourquin Bart ;
Language :	French
Place of the course	Mons
Main themes	The objective of the course is to make students understand the importance of transport networks in the economy in general, with a focus on the supply chain. After a presentation of transportation networks concepts, the course explains the classical four stages modeling approach. More recent alternative techniques are then discussed, such as multi-agent simulation or "virtual networks". The course is mainly practice-oriented, focusing on a series of case studies that show how the modeling of transport networks is a valuable decision-making tool for studying very different issues such as congestion, the optimal location of facilities, modal shift, the impact of new transport infrastructure, etc.
Learning outcomes	<p>At the end of this learning unit, the student is able to : Contribution of the teaching unit to the LO (competency framework) of the program</p> <p>With regard to the learning outcomes of the Master 120 in Management / Business Engineering programs, this teaching unit contributes to the development and acquisition of the following skills:</p> <ul style="list-style-type: none"> • 2.2 Master knowledge that is otherwise specialized in one or two areas of management: cutting-edge and recent knowledge and methods, resulting from scientific research. • 2.5. Contribute to the development of new knowledge in management. • 3.1. Conduct clear and structured analytical reasoning by applying and, adapting if necessary, scientifically sound conceptual frameworks and models to describe and analyze a concrete problem. • 3.2. Collect, select and analyze relevant information using rigorous, advanced and appropriate methods. • 3.5 Identify, based on the analysis and diagnosis, solutions that can be implemented in context and identify priorities for action. • 5.2. Situate and understand the functioning of an organization in its changing local and international socio-economic context; and discern strategic issues from operational issues and decisions. <p>Specific LO at the end of the teaching unit</p> <p>On completion of this teaching unit, the student will be able to :</p> <ul style="list-style-type: none"> • Describe the way in which he would model transport traffic of passengers or freight on a network presented in a case, based on the theoretical concepts covered in class. • Imagine new solutions to problems encountered when modeling a non-met example during the class. • Explain how to decompose a complex model by identifying sub-problems to be solved. • Collect the necessary data to solve of a concrete problem that is submitted to him. • Participate in the resolution of a complex case study, in which transportation networks are only an element. • Identify the different stakeholders in transportation networks, in the context of socio-economic analysis. • Interpret the outputs of a transport model in order to identify the socio-economic benefits of an infrastructure project.
Bibliography	ORTÚZAR J., WILLUMSEN L. (2011), Modelling Transport, 4 th ed., Wiley.
Faculty or entity in charge	CLSM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Management	GESM2M	5		
Master [60] in Management	GESM2M1	5		
Master [120] in Business Management	GENT2M	5		
Master [120] : Business Engineering	INGE2M	5		
Master [120] in Management	GEST2M	5		
Master [120] : Business Engineering	INGM2M	5		
Master [120] in Management (with work-linked-training)	GESA2M	5		