


In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

5 credits	30.0 h	Q2
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Teacher(s)	Agrell Per Joakim ;Chevalier Philippe ;Jourquin Bart (compensates Chevalier Philippe) ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	This advanced course describes the logistics systems, their managerial objectives and the current trends in the development of advanced decision support systems. In particular, emphasis is put on modeling and solving logistics problems using state-of-the-art approaches. The transportation, distribution and warehousing functions will be studied in details through lectures and case studies.
Aims	<p><b>During their programme, students of the LSM Master's in management and Master's in Business engineering will have developed the following capabilities'</b></p> <p><b>KNOWLEDGE AND REASONING</b></p> <ul style="list-style-type: none"> <li>• Master highly specific knowledge in one or two areas of management : advanced and current research-based knowledge and methods.</li> </ul> <p><b>A SCIENTIFIC AND SYSTEMATIC APPROACH</b></p> <ul style="list-style-type: none"> <li>• Consider problems using a systemic and holistic approach : recognize the different aspects of the situation and their interactions in a dynamic process.</li> </ul> <p><sup>1</sup> <b>WORK EFFECTIVELY IN AN INTERNATIONAL AND MULTICULTURAL ENVIRONMENT</b></p> <ul style="list-style-type: none"> <li>• Understand the inner workings of an organization : develop a global approach and integrate the internal logic used within the organization.</li> <li>• Position and understand the functioning of an organization, in its local and international socio-economic dimensions and identify the associated strategic issues and operational decisions.</li> </ul> <p><b>TEAMWORK AND LEADERSHIP</b></p> <ul style="list-style-type: none"> <li>• Work in a team :Join in and collaborate with team members. Be open and take into consideration the different points of view and ways of thinking, manage differences and conflicts constructively, accept diversity.</li> </ul> <p>-----</p> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Evaluation methods	<p><b>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</b></p> <p><b>Continuous evaluation</b></p> <ul style="list-style-type: none"> <li>• Date: <i>To be specified late</i></li> <li>• Type of evaluation: <i>Group work (I&amp;II)</i></li> <li>• Comments: <i>No</i></li> </ul> <p><b>Evaluation week</b></p> <ul style="list-style-type: none"> <li>• Oral: <i>No</i></li> <li>• Written: <i>No</i></li> <li>• Unavailability or comments: <i>No</i></li> </ul> <p><b>Examination session</b></p> <ul style="list-style-type: none"> <li>• Oral: <i>No</i></li> <li>• Written: <i>2 hours</i></li> <li>• Unavailability or comments: <i>Continuous evaluation activities will not be organized for the September session, this part of the evaluation for the grade in September will be based on the activities of the semester.</i></li> </ul>

Content	The class mixes - lectures with additional individual readings and exercises, - solution of cases in groups: design and implementation of solutions . Content : 1. Introduction to logistics systems: - Logistics systems - Managerial issues and trends - Decision support systems 2. Models and methods - Network Optimisation models and methods, - Mixed Integer Programming and decomposition methods, - Heuristic optimisation methods. 3. Design of Logistics Network 4. Design and Operation of Warehouses 5. Planning and Scheduling for Long-Haul Freight Transportation 6. Planning and Scheduling for Short-Haul Freight Transportation Methods : In-class activities 1 Lectures 1 Exercices/PT 1 Project based learning At home activities 1 Readings to prepare the lecture 1 Exercices to prepare the lecture 1 Paper work 1 Students presentation
Bibliography	: No TEXTBOOK. and available on line . No book protected by copyright. . READING FILE compulsory and available on line Supports available on line are on ICAMPUS.
Other infos	Evaluation : - Case solutions including class presentations, - Written exam (open book) with open questions and exercises. References : - Stadler H., C. Kilger (Eds), Supply chain management and advanced planning : concepts, models, software and case studies , 2d edition, Springer, 2002. - Y. Pochet, L.A.Wolsey: Production Planning by Mixed Integer Programming , Springer, 2006. - Introduction to Logistics Systems Planning & Control, Ghiani, Laporte, Musmanne, Wiley 2004. Additional and more specialized references will be provided during the class Internationalisation : 1 international content (does the course tackle international issues related to the course content ?) 1 international case study Corporate features : 1 case study 1 corporate guest Skills : 1 presentation skills 1 writing skills 1 team work 1 problem solving 1 decision making 1 critical thinking Techniques and tools for teaching and learning : 1 IT tools 1 modelling 1 quantitative methods 1 mathematics
Faculty or entity in charge	CLSM

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