


5.00 crédits	30.0 h	Q2
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Enseignants	Catanzaro Daniele ;Porretta Luciano (supplée Catanzaro Daniele) ;
Langue d'enseignement	Anglais
Lieu du cours	Mons
Acquis d'apprentissage	
Modes d'évaluation des acquis des étudiants	The examination method (e.g., project, written exam, or other forms) will be communicated by the lecturer during the first and *mandatory* lecture of the course.
Méthodes d'enseignement	Slided & Blackboard lectures.
Contenu	<p>This course, taught in english, is designed to develop both the ability to quantitatively analyze very large-scale practical problems in management science and to interpret and understand quantitative results in order to perform a more informed decision-making. Its aim is to introduce a broad range of optimization concepts and associated quantitative techniques with a view to helping the student appreciate the merits and limitations of these techniques as well as the data and technical requirements involved with their use.</p> <p>The course includes the following topics:</p> <ol style="list-style-type: none"> <li>1. Introduction to Quantitative Decision Making Tools</li> <li>2. Large Scale Optimization: From Theory to Solutions</li> <li>3. Projection, inverse projection, and their applications</li> <li>4. Models and methods for Data Envelopment Analysis, Pricing, Location, Partitioning, Routing, Transportation and Network Design</li> <li>5. Case studies</li> <li>6. Brief introduction to integer optimization methods for machine learning</li> </ol>
Bibliographie	The lectures will be integrated with some capita selecta from the following references: (1) R. Kipp Martin. Large Scale Linear and Integer Optimization: A Unified Approach. Springer, 1999. (1) S. Boyd and L. Vandenberghe. Convex Optimization. Cambridge University Press 2004. (2) M. Conforti, G. Cornuejols, G. Zambelli. Integer Programming. Springer, 2014. (3) S. Heipcke. Applications of optimization with Xpress-MP. Dash Optimization, 2002.
Faculté ou entité en charge:	CLSM

<b>Programmes / formations proposant cette unité d'enseignement (UE)</b>				
Intitulé du programme	Sigle	Crédits	Prérequis	Acquis d'apprentissage
Master [120] : ingénieur de gestion	INGE2M	5		
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