UCLouvain

mlsmm2155

2017

Quantitative Decision Making

5 credits	30.0 h	Q2

Teacher(s)	Catanzaro Daniele ;
Language :	English
Place of the course	Mons
Main themes	This course is designed to develop in the student both the ability to quantitatively analyze practical problems 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.
Aims	This course contributes to develop the following competencies. • Knowledge • Scientific reasoning and systematic approach • Communication and interpersonal skills • Project management 1 • Leadership At the end of this course, students will: • Improve their strategical thinking skills • Acquire fundamental knowledge on the modeling of practical problems • Apply the appropriate techniques to propose a useful solution. - - - - *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".*
Evaluation methods	Individual project with final report and oral presentation.
Teaching methods	Blackboard lectures.
Content	1. Introduction to Quantitative Decision Making Tools 2. Large Scale Optimization: From Theory to Solutions 3. Projection methods: benders decomposition 4. Inverse projection methods: dantzig-wolfe decomposition 5. Case studies 6. introduction to integer optimization methods for machine learning
Faculty or entity in charge	CLSM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Business Engineering	INGE2M	5		
Master [120] in Business Engineering	INGM2M	5		