Course Descriptions None 2017-2018

Course Title	Modelling and Solver Technology
Course Code	EBC4051
ECTS Credits	6,5
Assessment	None

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
4	5-2-2018	6-4-2018		X		X	

Level	Advanced
Coordinator	Aida Abiad Monge For more information:a.abiadmonge@maastrichtuniversity.nl
Language of instruction	English
Goals	After this course, the student is able to model (hard) optimisation problems as mathematical programs and knows several techniques to solve these problems. Moreover, the student can use general purpose software tools to solve these problems.
Description	This course is devoted to mathematical modelling of hard optimisation problems. We focus on integer programming techniques to solve these optimisation problems. During this course techniques as branch and bound, cutting panes and column generation will be discussed as well as the theory needed to understand these techniques. Furthermore, partially by using LP and ILP solvers, these techniques will be implemented in C++.
Literature	Selected papers. Lecture notes. Recommended background literature : L.A. Wolsey, "Integer Programming", 1998, ISBN 0-471-28366-5.
Prerequisites	Linear programming (including the simplex method), duality, basics in integer programming, combinatorial optimisation, graph theory, C++. Exchange students need to have obtained a Bachelor degree and an advanced level in mathematics. an advanced level of English
Teaching methods	PBL / Presentation / Lecture / Groupwork
Assessment methods	Final Paper / Attendance / Participation
Evaluation in previous academic year	For the complete evaluation of this course please click http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM

This course belongs to the following programme / specialisation

Master Business Research	Methodology Electives
Master Business Research Track OR	Methodology Electives
Master Business Research Track OR	Track Operation Research Compulsory Courses
Master Econometrics and OR	Econometrics & OR Electives
Master Econometrics and OR	Operations Research
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses