Course Descriptions None 2024-2025

Course Title	Game Theory and Optimisation
Course Code	EBC4188
ECTS Credits	6,5
Assessment	Whole/Half Grades

Period

Period	Start	End	Mon	Tue	Wed	Thu	Fri
1	2-9-2024	20-10-2024	X			X	

Level	Advanced
Coordinator	Marc Schröder, Veerle Timmermans For more information:m.schroder@maastrichtuniversity.nl; vm.timmermans@maastrichtuniversity.nl
Language of instruction	English
Goals	This course provides a comprehensive overview of optimization techniques such as linear and integer programming, and non-linear programming, with applications in game theory and economics. Students learn optimization techniques from mathematics and operations research, and how to apply them in models from game theory and economic theory.
Description	Game Theory and Optimization techniques are fundamental skills for Econometricians and Operations Researchers. This course provides an overview of the relevant tools in both subjects. The optimization part of this course focuses on (discrete) optimization problems and techniques. Topics covered include (integer) linear programming, and graph problems and flow algorithms. The game theory part covers the definition and computation of Nash equilibria, potential games and mechanism/auction design.
Literature	There are lecture notes available via Canvas.
Prerequisites	This course is in transition for the master Business Research. See the Master Education and Examination Regulations for more information. The following rule applies to master Business Research students who started the programme prior to academic year 2024-2025. TRANSITIONAL REGULATION (EBC4188): The master Business Research has been discontinued. Courses of the Business Research master's programme will continue to be offered until and including academic year 2025-2026 with exam opportunities running until and including 2026-2027. PREREQUISITES: Only Master students can take this course. Exchange students need to have obtained a BSc degree in Economics, International Business, Econometrics, or a related topic. Familiarity with the basic concepts of optimization and linear programming will be helpful. A solid basis in mathematics and calculus is also recommendable.
Teaching methods	PBL / Presentation / Assignment / Groupwork
Assessment methods	Written Exam / Assignment / Presentation
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 - No specialisation	Transitional Regulation
Master Business Research - Operations Research	Transitional Regulation
Master Econometrics and Operations Research	Compulsory Course(s)
Master Economic and Financial Research - Econometrics	Elective Course(s)
Master Economic and Financial Research - Econometrics	Year 1 Core Course(s)
Master Economic and Financial Research - No specialisation	Elective Course(s)
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses