Course Descriptions None 2025-2026

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	1-9-2025	17-10-2025	X			X	

Level	Advanced
Coordinator	Marc Schröder For more information:m.schroder@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	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.
Transitional Regulations	TRANSITIONAL REGULATIONS <ul class="trcohorts"> - Master Business Research - Master Business Research - Operations Research - In 2024-2025 and 2025-2026 education and exam/resit opportunities are offered. - In 2026-2027 exam/resit opportunities are offered. - From 2027-2028 onwards, the course is cancelled. <table><col style="width: 200px;"><col style="width: 120px;"><col style="width: 120px;"><col><thead><tr><th>Academic Year</th><th>Education</th><th>Exam/Resit</th><th>Replacement(s)</th></tr></thead><tbody><tr><td>2024-2025 - 2025-2026</td><td>X</td><td>X</td><td> </td></tr><tr><td>2026-2027</td><td> </td><td>X</td><td> </td></tr><tr><td>2027-2028 onwards</td><td> </td><td> </td><td> </td></tr></tbody></table>
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	In transition - Y2 Free Electives
Master Business Research - Operations Research	Transitional Regulation
Master Econometrics and Operations Research	Compulsory Courses
Master Economic and Financial Research - Econometrics	Elective Courses
Master Economic and Financial Research - Econometrics	Year 1 Core Courses
Master Economic and Financial Research - No specialisation	Elective Courses
SBE Exchange Master	Master Exchange Courses
SBE Non Degree Courses	Master Courses