

Course content for International Master program „Mathematical modeling, computation and optimization“

Course name	Combinatorial Optimization
Contents and Objectives	<p><u>Content:</u></p> <ul style="list-style-type: none"> • network flows, circulations, transshipments, posets • Gomory-Hu trees • matchings in bipartite and general graphs • submodular functions and polymatroids <p><u>Objectives of the course:</u> in depth knowledge about theory and computational efficiency of polynomial time algorithms for important combinatorial optimization problems that appear frequently as subproblems in mathematical and real world applications.</p>
Teaching	This course consists of lectures (2h/week)
Prerequisites	Basic notions of Discrete Mathematics
Examination	Oral exam (30 minutes)
Credits	6 ECTS points
Frequency	This course is given at least once in four years.
Workload	The estimated total working time for this course is 120 hours.
Duration	This course is given during one semester.