

Linear and Combinatorial Optimization VT-1 2008

Lecturer:

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Lectures:

Wednesday 8-10 and Friday 13-15 in MA5.

First lecture: Wednesday, January 16. Last lecture: Friday, February 29.

Laboratory exercises:

To be decided. Approximate schedule:

Lab 1	Lab 2
4/2–8/2 MH???	18–22/2 MH??? Klas Josephson

Literature:

Kolman, B. and Beck, R. E. **Elementary Linear Programming with Applications**, Academic Press 1995, Second Edition, ISBN 0-12-417910.

Preliminary plan for lectures:

on	16/1	Basic concepts Combinatorial optimization Linear programming (Chap 1)
fr	18/1	The Simplex method (Chap 2)
on	23/1	Duality (Chap 3)
fr	25/1	Duality (Chap 3)
on	30/1	Integer programming (Chap 4)
fr	1/2	Integer programming (Chap 4) 'Branch and Bound'
on	6/2	Maximal flow problem (Chap 5.4) Transportation problem (Chap 5.1)
fr	8/2	Algorithm complexity Karmarkar's algorithm
on	13/2	Convex optimization Dynamical programming
fr	15/2	Simulated annealing
on	20/2	Genetic algorithms
fr	22/2	Neural networks
on	27/2	(Tabu search, voting methods) Repetition
fr	29/2	Repetition Preparation for exam

Course requirements:

In the course, there are 2 mandatory computer exercises, 4 mandatory hand-in exercises and one take-home exam as well as a short oral discussion about the exam and the course.