

DM841 (10 ECTS - 1st Semester)

Heuristics and Constraint Programming for Discrete Optimization

[Heuristikker og Constraint Programmering for Diskret Optimering]

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dm865.github.io

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Heuristikker og Approximationsalgoritmer

[Heuristics and Approximation Algorithms]

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Spring semester

Lene Monrad Favrholt • Marco Chiarandini

lektorer, IMADA

Course Formalities

Prerequisites:

- ✓ Programming (DM502, DM503, DM550)
- ✓ Algorithms and Datastructures (DM507)
- ✓ Complexity and Computability (DM508, DM553)
- ✓ Linear and Integer Programming (DM559, DM545, DM554)

Semester: 3rd (but challenging), 5th, Master

Credits: 10 ECTS

Language: English and Danish

Classes: intro: $2h \times 24$; training: $2h \times 20$

Material: slides + articles + lecture notes + starting code

Assessment (10 ECTS)

- Two practical project assignments passed/failed with internal censor by the teacher
- Oral exam based on:
 - the theoretical part
 - two practical assignments

Grading by the danish 7-mark scale, external marking. Exam aids allowed.

Contents

	Apporx Algorithms	Local Search + Meta-heuristics
Set Cover		
Satisfiability		
Traveling Salesman		
Scheduling		
Knapsack		
Bin packing		
Bin Packing		

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