

SF2822 - Applied nonlinear optimization

Plan for exercise sessions, spring 2016

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In general, in the beginning of each exercise sessions there will be a recap of the theory part covered in the lectures.

Exercise session 1: Convexity and optimality conditions.

In class: 1.10 a), an exercise similar to 1.1.

Recommended: 1.1, 1.3, 1.11

Exercise session 2: Unconstrained optimization.

In class: 2.2 b)

Recommended: 2.2 a) and/or c), 2.3.

Exercise session 3: Equality-constrained quadratic programming.

In class: An exercise similar to 3.6 a) & b), an exercise similar to 4.7.

Recommended: 3.6, 3.3.

Exercise session 4: Inequality-constrained quadratic programming - Active-set & Interior point method.

In class: An exercise similar to 4.7, 6.1.

Recommended: 4.7, 4.8, 6.7.

Exercise session 5: Sequential quadratic programming.

In class: An exercise similar to 5.5, an exercise similar to 6.7, Ex. 4 on Exam 2004-04-23.

Recommended: 5.5, 5.12.

Exercise session 6: Interior methods for nonlinear programming.

In class: 6.2, 6.4

Recommended: 6.6, Ex. 3 on Exam 2011-05-28.

Exercise session 7: Semidefinite programming.

In class: 7.1 a) & b), an exercise similar to Ex. 5 on Exam 2012-06-02. If there is time, also an exercise similar to 7.5

Recommended: 7.3, 7.6, 7.2.

Exercise session 8: Overview of the whole course.

In class: Recap of theory/concepts in the course, and parts of an old exam (probably Exam 2012-06-02)

Recommended: -