Department of Mathematics and Computer Science
University of Southern Denmark, Odense

April 29, 2005
LMF

# DM69 — Lecture 13

## Lecture 13 — May 4

- Overview of matroid partitioning (Korte and Vygen 13.6).
- Greedy approaches to scheduling (Atallah 35.1–35.3).
  It is a good idea to familiarize yourself with the various scheduling models (described in Section 35.1) before the lecture.
- Matching and linear programming applied to scheduling (Atallah 35.4).

## Problems for May 6

1. Problem 16.5-2 in Cormen.
2. Problem 16-1 in Cormen.
3. Problems 31.7-1 and 31.7-3 in Cormen.
4. Problem 31.8-1 in Cormen.
5. Problems 13 and 17 in Korte and Vygen.

## Exam questions

For the material we have covered so far, the following are the possible main questions.

1. Shortest paths in weighted graphs
2. The maximum $(s, t)$-flow problem and the minimum $(s, t)$-flow problem
3. Polynomial algorithms for maximum flows
4. Minimum cost flows
5. Matchings: characterizations and algorithms
6. The primal-dual algorithm for the transportation and the assignment problem
7. The RSA cryptosystem
8. Matroids and the greedy algorithm
9. Matroid intersection and partitioning