

## Combinatorial Optimization II (DM209) — Ugeseddel 5

### Handout material in week 9

- Csaba Biro: Tree-width and grids notes from 2005.
- Lovasz, Graph minor theory, Bulletin of the AMS vol 43 (2005) 75-86.
- Ravi and Goemans, The constrained minimum spanning tree problem, extended abstract.

### Stuff covered in Week 9

- Fixed parameter tractability and kernels based on the paper by Thomasse on the feedback vertex set problem.
- The minimum strong spanning subdigraph problem based on the paper Bang-Jensen and Yeo, The minimum spanning strong subdigraph problem is fixed parameter tractable, Discrete Applied mathematics 156 (2008) 2924-2929.
- 2-sat based on BJJ Section 1.10.
- Niedermeier Section 10.6 (briefly).

**Week 10** We will only meet monday and tuesday.

- The constrained minimum spanning tree problem: based on Ravi and Goemans [paper and Khuller Section 40.
- The steiner tree problem, Khuller section 42.
- The complexity of multicut problems. Based on handout of the paper Bang-Jensen and Yeo, the complexity of multicut and mixed multicut problems in digraphs, manuscript 2013 (submitted).