

Lectures 7/5

- We will introduce partial differential equations (PDE's) (Section 20) and discuss the typical hyperbolic, parabolic and elliptic equations Eq. 20.0.1-20.0.3.
- We will then discuss numerical solution of elliptic boundary value problems. We will first focus on a unit square with fixed boundary and then discuss how this can be generalized to other types of regions and other types of boundary conditions. This corresponds mainly to Section 20.0.2.
- With Jens you will present the exercise about the Finite Difference method and then work on a new exercise with a simple elliptic PDE.

Lectures 14/5 (last lectures)

- We will discuss diffusion equations (Section 20.2). Main focus will be the first part handling a constant diffusion coefficient (Eq. 20.2.3). We will look at the methods on p. 1044-1046.
- We will then briefly discuss generalizations to other diffusion equations
- With Jens you will work on the exercise from last time and an exercise on a simple diffusion equation. This will be the last exercise of the course.