

Discrete Mathematics with Applications F02 – Lecture 10

Important: Most of you have signed up for the exam in *DM11 : Discrete Mathematics* instead of our course, which is *DM72: Discrete Mathematics with Applications*. Please change that (the previously taught course DM11 covered other topics than DM72, and so will the exam). For taking part in the DM72 exam, your four homework assignments have to be approved.

Lecture, April 8

We started to lecture on discrete probability theory. We defined sample spaces, events and elementary events as well as the axioms of discrete probability distributions and studied their properties (Sections 4.4 and 4.5).

Lecture, April 15

Conditional probabilities are introduced and Bayes' theorem is proven. Then, random variables and expectation values for the latter are treated. (Sections 4.4, 4.5 and additional notes).

Lecture, April 22

We study some properties of calculating with expectation values. The expectations of further distributions are computed. Thereafter, the variance of

a random variable will be introduced and analysed (Section 4.5. and “Noter til DM 11“).

Problems to be discussed on April 23

Problems from Section 4.5: 12, 13, 16, 34, 35, 38