

## Exam

### Time and Location

The exam date is (to be confirmed) Wednesday, January 25th, 2017 (room to be announced).

### Procedure

When it is your turn for examination, you will draw a question. The list of questions can be found below. There will be no preparation time. The actual exam lasts approximately 25-30 minutes. You should start by presenting material related to the question you drew. Aim for a reasonable high pace and focus on the most interesting material related to the question. You may bring a short list of keywords for the actual exam to remember what you have decided to present. Thus, you are not supposed to use note material, textbooks, transparencies, computer, etc. for this part.

We, the examiner and the censor, will supplement with specific questions when appropriate, and after a while, we will end the discussion of the exam question that you drew and turn to material from other parts of the curriculum. Note that all of this as well as discussion between examiner and censor about the grade is included in the 25-30 minutes, so do not count on more than 10-15 minutes for your own presentation.

Some of the questions below are very broad, so you must select the material you choose to cover. You will of course also be evaluated based on your selection of material. If you only present the simplest material, you limit the grade you can obtain. On the other hand, a good presentation of the simple material is better than a poor presentation of the harder material.

On the other hand, some of the questions are fairly narrow. If you think you have too little material, you are welcome to continue with material from a related question.

### Curriculum:

The curriculum in the course consists of all the literature and exercises referenced on the weekly notes. You can rely on that you will only be examined in the parts of the material that was discussed at lectures and discussion sections. Note that the mandatory assignments are part of the curriculum, too.

## Questions:

### 1. Ordinary Generating Functions

- Symbolic method
- Trees and strings
- Powersets and multisets
- Compositions and partitions
- Substitution

### 2. Exponential Generating Functions

- Symbolic method for labelled classes
- Words and strings
- Labelled trees
- Mappings

### 3. Multivariate Generating Functions

- Moment calculations
- OBGF examples
- Labelled classes

Note that we might also ask questions related to the mandatory assignments.