

Seminar – Discrete Mathematics III

(WS 2014)

Instructor: Juanjo Rué

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Place: The first meeting will be the 15th September 2014, 15:00 at SR 31 (Arnimallee 6).

Office Hours: By appointment.

Requirements: A background in Probabilistic Combinatorics (similar to the material of the course of DM II the WS 2013) and Enumerative Combinatorics (similar to the material of the course of DM III in the SS 2014) is required.

The seminar will be based on a series of papers related to these three topics: the Symbolic Method and Enumerative Combinatorics, Map Enumeration and the Probabilistic Method.

Students should come in order to plan the seminar, and schedule the talks. If for some reason an student could not come (but interested on attending the seminar), then should write an e-mail to Jun. Prof. Rué before the first meeting.

There will be the possibility of long papers, that can be splitted among several participants (2 or even 3). In case of a double/triple presentation of a topic, students work closely with her/his partner(s), adjust the lectures to each other, help each other with the understanding of the papers and advise each other with the planning of the individual lectures.

There will be at least **two** meetings between the instructor and each student before the oral presentation: one meeting approximately 3 weeks before the talk, where the student should present possible precise questions concerning the scientific material. The student should have read the material already at this point. The student should take care of writing the instructor in order to make an appointment. The goal of the meeting is to clarify the unclear points in the understanding of the proofs. For this, the student should prepare the questions concerning the proofs.

The second meeting will be approximately 1 week before the talk, where the student should show the structure and the main ideas of the talk. Again, in the second meeting the participant should contact with the instructor in order to make the appointment. This will be practically a rehearsal talk. In case of a beamer presentation, all the pages must be completed (it is not acceptable to have a picture or a slide still missing). In case of a blackboard presentation all what all that is planned to be written on the blackboard should be written on paper (the blackboard images, one after another) The goal of the meeting is that your advisor can give suggestions to improve the presentation ("this slide is too dense", "here maybe you should rearrange the order of things", etc...).

The students should prepare a 3-6 page abstract of the seminar to help the rest of the people attending the seminar to understand the seminar.

Attendance and activity: To get credit, students must attend at least 90 per 100 of the lectures and ask the speaker with questions demanding more clear explanations (if necessary). The goal of the seminar is NOT that the speaker can repeat his/her rehearsed talk in an undisturbed manner, rather that the audience understands and learns some new mathematics.

Grading: the evaluation will be on the exposition and on the written abstract prepared for the seminar. Students will be graded based upon three criteria (both equally important)

- the understanding of the topic.
- the quality of the presentation.
- the abstract prepared for the seminar.

A failing in either of these will result in a failing grade for the seminar.

Bibliography: Bibliography will be associated to each topic and will be discussed separately with each participant.