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*Institute of Mathematics*  
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## WS 2015 / 2016: The Probabilistic Method

We will cover selected topics of the book [AS08]. In a nutshell, the probabilistic method is used for showing the existence of a structure with a certain property by choosing an appropriate probability space of structures such that, with positive probability, a randomly chosen element has the desired property. In this context we will also touch upon fundamental probabilistic techniques and basic graph theoretic concepts.

The seminar is aimed at BSc and MSc students, and participants are expected to have mastered the contents of the lecture ‘Introduction to stochastics’ or, slightly preferable, of the lecture ‘Probability theory I’. In order to obtain the corresponding credit points, participants have to give a presentation on one of the up to 14 available topics and actively participate in the remaining presentations.

Presentations can be given in English or German.

Students who intend to participate in the seminar are asked to notify the lecturer via email (see above) by **July 31<sup>st</sup>, 2015**, including

1. matriculation number,
2. semesters studied,
3. relevant lectures attended so far.

*Room:* 313 (Stefan Cohn-Vossen lecture hall)

*Time:* Wednesday, noon to 1.30 p.m.

*Start:* **Wednesday, October 21<sup>st</sup>, 2015**

## References

- [AS08] Noga Alon and Joel H. Spencer. *The probabilistic method*. Wiley-Interscience Series in Discrete Mathematics and Optimization. John Wiley & Sons, Inc., Hoboken, NJ, third edition, 2008. With an appendix on the life and work of Paul Erdős.