

Guidelines for the MA946 - Introduction to Graduate Probability Oral examinations

Exam: December 2021 (or 7 January 2022 – to be confirmed in week 1-2)

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The oral examination will be for half an hour and will fall into roughly two parts.

1. In the first part (10 minutes), you should give a brief talk (Presentation) on the blackboard about ONE of the topics listed below. I suggest choosing and summarising the relevant sections in the lecture or your notes, with some rough ideas of the proofs. But exactly what you select and how you present things is up to you. Note 10 minutes sharp and be prepared to answer questions on your presentation.
2. In the second part we will feel free to ask you about anything. First we ask questions on the topic of your presentation, and then we focus on the broader picture. But remember that our aim is to find out what you know, rather than what you don't.

Presentation (30%); Questions (40%); Broader Picture (30%)

Topics for presentation and preparation

1. The Central Limit Theorem
2. Simple Random walks on \mathbb{Z}^d
3. Brownian motion
4. Large deviation theory (basic theory)
5. Discrete Gaussian Free Field