

# Topics in Probability (Graduate Course)

Janosch Ortman

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Contact: [janosch.ortmann@utoronto.ca](mailto:janosch.ortmann@utoronto.ca)  
Lecture times: Mondays 1-3 and Wednesdays 1-2  
Lecture location: BA 1230 and BA B025  
Office location: ES 4145 (Earth Sciences, 4th floor)  
Course web site: <http://individual.utoronto.ca/ortmann/MAT1128-13F.html>

## Textbook

We will roughly be following the first chapters of Rick Durrett's book *Probability: Theory and Examples* published by CUP.

## Assessment

If you are following the graduate programme then you will need to take the Probability Qualifying Exam in the spring of 2014, which will then determine your grade for this course.

I will be setting weekly exercise sheets, there will be a midterm and a final exam.

## Topics covered

Roughly I am hoping to cover parts of Chapter 1,2,4,6 and 7 in Durrett. We will discuss the following:

- probability measures, random variables, distributions
- expectation and integration
- independence
- laws of large numbers: weak and strong, Borel-Cantelli lemmas
- random walks: stopping times, visits to zero
- Markov chains
- some basic aspects of ergodic theory