MATH 419/545: Stochastic Processes/Probability II
(3 credits)

Instructor: Mathav Murugan
Email: mathav@math.ubc.ca
Lectures: MWF 10-11 at MATH 203
Office hours: Mon 1-2, Wed 12-1, Fri 11-12 at MATX 1102

Course webpage: `http://www.math.ubc.ca/~mathav/teaching/419s19.html`

Text: *Probability: Theory and Examples* by R. Durrett. Version 5a available for free download at the authors webpage at `https://services.math.duke.edu/~rtd/PTE/PTEv5a.pdf`.

Prerequisites: Math 418/544

Outline. This course is a continuation of Math 418/544. Together they give a comprehensive introduction to measure theoretic probability which should be ideal for those wishing to study probability, or use it as a tool in analysis, statistics, mathematical biology, economics, finance or applied mathematics.

The course will be based on Chapters 4–8 of Durrett, with additional topics as time permits. The main topics are:

1. Martingales
2. Markov chains
3. Brownian motion
4. Ergodic theory

Evaluation: Homework will be assigned regularly (5 to 7 in total) for 60% of the grade.

There will be a 2 hour midterm 5:30-7:30, Thurs. March 21 for 40% of the grade.