COMBINATORIAL STOCHASTIC PROCESS ("TOPICS IN DISCRETE MATHEMATICS")

MATH 758

http://www.math.mcgill.ca/louigi/courses/math758/

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Office hours: By appointment, 1219 Burnside.

PLANNED TOPICS

PITMAN, CHAPTER 1. Stirling numbers, Bell polynomials, composite structures, Gibbs partitions. Connection with moments and cumulants; infinitely divisible distributions, the Lévy-Khintchine Theorem.

PITMAN, CHAPTER 2. Random sampling, de Finetti’s theorem. Pólya’s urn scheme. Exchangeable random partitions, infinite partitions, Kingman’s paintbox.

PITMAN, CHAPTER 3. (?) The Chinese restaurant process, the two-parameter model.


The question marks are since I doubt there will be time for both Chapter 3 and chapters 6-7.

TEXTBOOK

*Pitman*, combinatorial stochastic processes. (Can download from http://works.bepress.com/jim_pitman/1/)

Note: some course material is not covered in the textbook.
**SCHEDULE**

Tuesday, Thursday, 13:05-14:25, Burnside Hall 1205.

**GRADING SCHEME**

Two percent for each full solution to an exercise from Pitman, to a maximum of 100% of your grade. Solutions must be submitted in LaTeX and multiple attempts at the same question are allowed. You may work in groups on the questions from Pitman; if you do then the group should hand in a single solution to the question, with the name of all group members.

The remainder of the mark will be based on an in-class presentation of a publication or a section of the book.

Finally, anyone who solves an open problem from Pitman gets an automatic perfect grade.

**Additional information**

In accord with McGill University’s Charter of Students’ Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ ) for more information).

There will be no class on February 2, 4 or on March 2, 4, 23, or 25. Make-up classes will be held on dates to be determined.