Probability

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Timetable: 20 ore, Lunedì e Venerdì ore 10.00 - 12.00. Prima lezione 29 marzo 2010. Torre Archimede, Aula 2BC/30.

Course requirements: Basic probability and measure theory.

Examination and grading: Grading is based on homeworks or a written examination or both.

SSD: MAT/06

Aim: The course is designed as an "invitation to probability": for students with strong interest in probability it provides a solid introduction to modern and widely applied results; more occasional listeners will get the flavor of current research in the subject and will be exposed to technical tools whose interest goes well beyond probability.

Course contents:

Each of the following subjects will be roughly the content of one lecture.

1. Random walk
2. Weak convergence
3. Poisson process
4. Brownian motion
5. Percolation
6. Large deviations
7. Cramer theorem
8. Sanov theorem
9. Mean Field Ising model