

Topics in Probability

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Timetable: 16 ore. Class meets on Tuesday and Thursday from 10:30 to 12:30. The first meeting will be on Tuesday, April 5, 2011, Torre Archimede, at Prof. Cerf's office, Room 511, V floor BC.

Course requirements: Standard knowledge of Probability and measure theory.

Examination and grading: Seminar on a subject assigned by the Instructor

SSD: MAT/06 Probability and Mathematical Statistics

Aim: The course will be given in the form of "working group", mainly consisting of guided reading of research papers. Courses of this type are indeed very common in many Graduate School around the world.

The aim is to introduce the percolation and Ising models and to present a selection of results and open questions related to these models.

Course contents:

- Percolation
- First passage percolation
- Ising model
- FK percolation
- Glauber and Kawasaki dynamics
- Metastability
- Curie-Weiss model
- Concentration of measure