Title: Elements of Stochastic Processes

Aim of the course: The course aims at offering an overview on some selected topics in the theory of Stochastic Processes.

Duration: 20 hours (it may be extended).

Arguments: Martingales, Markov chains, Brownian motion, Stochastic differential equations.

Program: A tentative program is the following:

- Review of Probability
- Martingales
- Markov Chains
- Markov Processes in continuous time
- Stochastic calculus

Bibliography:

I. Karatzas, S. E. Shreve, Brownian Motion and Stochastic Calculus, Springer-Verlag (1991).