# Stochastic (Ordinary and Partial) Differential Equations

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**Timetable:** The course consists in 20 hours, but the students of the Doctoral school have to follow only the Advanced part of this course, that consist in 12 hours. The first lecture of the entire course will be on Tuesday, March 1, 2011.
The Advanced part will start on March 22, 2011.
Class for the second part meets Tuesday March 22 and 29, and Thursday March 24 and 31 from 11:30 to 13.15, Room 2BC/30, Torre Archimede. The last two lessons will be on Monday April 4 and Tuesday April 5, in he same room.

**Course requirements:** A standard course in Stochastic Analysis; in particular, students *can follow* the first part of the course of the Doctoral School of Mathematical Sciences titled "Topics in Stochastic Analysis".

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

**SSD:** MAT/06 Probability and Mathematical Statistics

**Course contents (Advanced part):**

1. Introduction to stochastic analysis in Hilbert spaces: nuclear brownian motion, Ito integral and Ito formula.
2. Elements of semigroup theory.
3. Stochastic evolution equation in Hilbert space.
4. Applications.