Special lecture on Dirichlet forms and related stochastic calculus

Course Syllabus

Fall Term 2011 — SNU

Course Title	Special topics in Analysis
Course number	3341.721A
Instructor	Gerald Trutnau
E–Mail	trutnau@snu.ac.kr
Course homepage	`http://www.math.snu.ac.kr/~trutnau/teachingDF-2011.html`
Course Objective	We will study the Theory of (non-symmetric) Dirichlet forms and the related stochastic calculus as presented in the references. We may also study some other topics that will be precised later in some update.
References	- Ma, Z.M., Röckner, M.: Introduction to the Theory of (Non-Symmetric) Dirichlet Forms. Berlin: Springer 1992. - Fukushima, M.,Oshima, Y., Takeda, M.: Dirichlet forms and Symmetric Markov processes. Berlin-New York: Walter de Gruyter 1994 (or new edition 2011). - Bouleau, N., Hirsch, F.: Dirichlet forms and Analysis on Wiener space, Walter de Gruyter, Berlin, 1991. - Oshima, Y.: Lectures on Dirichlet spaces. Universität Erlangen-Nürnberg 1988. - Stannat, W.: The theory of generalized Dirichlet forms and its applications in analysis and stochastics, Mem. Amer.Math. Soc., 142 (1999), no. 678. - Trutnau, G.: Stochastic Calculus of Generalized Dirichlet Forms and Applications, Preprint SFB 343, E00-004 (2000).

Evaluation - Attendance: (will not be checked). However, students are supposed to know the material taught in class.

Students must accomplish two take home exams.

- Take Home Exam I (5-7th week, 40 % of final score);

- Take Home Exam II (12-13th week, 40 % of final score);

Other: (20 % of final score)