Spring 2002

# MATH 7390-1: SEMINAR IN ANALYSIS

**Time:** MWF 10:40–11:30

**Room:** Lockett 111

**Prerequisite**

Math 7311 (Real Analysis I) or equivalent

**Coverage**

1. Measures on infinite dimensional spaces
2. Abstract Wiener space
3. Nuclear space
4. Brownian motion
5. Construction of Brownian motion
6. Stochastic integrals
7. The Itô formula
8. Stochastic differential equations
9. Wiener-Itô decomposition theorem
10. Theory of generalized functions on $R^n$
11. White noise theory
12. Stochastic partial differential equations

**References**


1. Kuo, H.-H.: Gaussian Measures in Banach Spaces, Lecture Notes in Math., Vol. 463, Springer-Verlag, 1975
2. Kuo, H.-H.: Stochastic Integration. (In preparation)
3. Kuo, H.-H.: White Noise Distribution Theory, CRC Press, 1996


**Grading**

The grade will be determined by homework assignments (40%), classroom presentation (25%), and project report (35%).


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