

## FINANCIAL ECONOMICS IN CONTINUOUS-TIME

**Time.** 10.00am to 11.30am.

**Plan.** We will meet every week and read the book “Stochastic Differential Equations.” Then, we will study some economics papers in the field.

**Material.**

- Øksendal, *Stochastic Differential Equations*, (2003), Springer. - Electric version is available.
- Karatzas and Shreve, *Brownian Motion and Stochastic Calculus*, (2000), Springer. - Supplementary material.

**Schedule and Location.**

Date	Topics	Location
Oct 5	Stochastic Differential Equations (Ch 5)	Bldg 24, Room S402
Oct 19	Filtering Theory 1 (Ch 6)	Bldg 24, Room S402
Oct 26	Filtering Theory 2 (Ch 6)	Bldg 24, Room S402
Nov 2	Diffusion Theory 1 (Ch 7)	Bldg 35, Room 212
Nov 9	Diffusion Theory 2 (Ch 7)	Bldg 35, Room 212
Nov 16	Topics in Diffusion Theory 1 (Ch 8)	Bldg 35, Room 212

**Time for this Extension Period.** 10.00am to Noon.

**Extended Schedule and Location.**

Date	Topics	Location
Nov 22	Topics in Diffusion Theory 2 (Ch 8)	Bldg 39, Room 106
Nov 30	Back [1992], “Insider Trading in Continuous Time,” Review of Financial Studies; Sannikov [2008], “A Continuous-Time Version of the Principal-Agent Problem,” Review of Economic Studies	Bldg 39, Room 106
Dec 7	Boundary Value Problem (Ch 9)	Bldg 39, Room 106
Dec 14	Optimal Stopping Time (Ch 10)	Bldg 39, Room 106
Dec 21	Application to Stochastic Control (Ch 11)	Bldg 39, Room 106