



MAP6467–Stochastic Differential Equations

Stochastic Differential Equations

Instructor and Office Hours

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Office Hours: MWF 4, or by appointment.

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Homework, Problems and Exams

Homework : Presentation of some class material

Prerequisites

MAA 6616 and 6617 or equivalent

Grading:

Grading will be based on class presentations

Objective of the Course:

Stochastic integrals differ from ordinary integrals in a fundamental fashion. Our goal in this course is to introduce this concept using martingales instead of Brownian motion.

Tentative Weekly Schedule:

08/22 – 08/26 : Review of nomenclature, Filtration, Conditional Expectations, Martingales, Examples and Applications

08/29 – 09/02 : Martingales continued: Optional Sampling Theorem, Martingale Inequalities, Maximal Inequalities, Martingale Convergence.

09/07 – 09/09 : Examples

09/12 – 09/16 : Increasing Processes and Change of Variables

09/19 – 09/23 : Semimartingales, Time Change

09/26 – 09/30 : Stochastic Integrals

10/03 – 10/05 : Stochastic Integrals continued

10/10 – 10/14 : Quadratic Variation

10/17 – 10/21 : Itô's Formula

10/24 – 10/28 : Itô's Formula and Applications

10/31 – 11/04 : Previsible Processes

11/07 – 11/09 : Classification of Stopping Times

11/14 – 11/18 : Decomposition of Martingales

11/21 – 11/21 : Quasimartingales

11/28 – 12/02 : Quasimartingales continued

12/05 – 12/07 : Compensators and Examples

Teaching Evaluation: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>.

Academic Honesty: The course will be conducted in accordance with the University honor code and academic honesty policy, which can be found in the [student guide](#)

Accommodation for Student with Disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.