

APMA 1930U: Introduction to Stochastic Differential Equations

Fall semester, 2020

Instructor:

Anastasios Matzavinos
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Office:

Room 325, 182 George Street

Class meeting times:

Tu & Th 2:30 pm – 3:50 pm
(Zoom link available on Canvas)

Virtual office hours via Zoom:

Tu & Th 4:30 pm – 5:30 pm or by
appointment.

Teaching assistant:

Tejas Suresh Kotwal
tejas_suresh_kotwal@brown.edu

TA's office hours:

Monday 3:00 pm – 5:00 pm
(Zoom link available on Canvas)

Class web page:

<https://canvas.brown.edu/courses/1082813>

Announcements and other information about the class will be posted regularly on the class web page.

Course description:

This seminar course serves as an introduction to stochastic differential equations at the senior undergraduate level. Topics covered include Brownian motion and white noise, stochastic integrals, the Itô calculus, existence and uniqueness of solutions to Itô stochastic differential equations, and the Feynman-Kac formula. More advanced topics, such as fractional Brownian motion, Lévy processes, and stochastic optimal control theory, may be addressed depending on the interests of the class and time restrictions.

Required text:

The following textbook is required reading for APMA 1930U.

- An Introduction to Stochastic Differential Equations by Lawrence C. Evans. American Mathematical Society, 2013.

Grading policy: The final grade will be based on homework assignments. There will be no final exam for this class.

Homework assignments: Homework problems will be handed out on a regular basis. Discussion of homework assignments with other students is encouraged, but what is handed in should be your own work.

Accommodations and other considerations:

Brown University is committed to full inclusion of all students. Please inform me early in the term if you have a disability or other conditions that might require accommodations or modification of any of these course procedures. You may speak with me after class or during

office hours. For more information, please contact Student and Employee Accessibility Services at 401-863-9588 or SEAS@brown.edu.

Students in need of short-term academic advice or support can contact one of the deans in the Dean of the College office.