Math 3226 Mathematics of Finance 2

Spring 2017 University of Pittsburgh

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Lectures: Tuesday 11:00-12:30pm and Friday 1-2pm in 703 Thackeray Hall.

Office Hours: Friday 2:00-3:30 pm in 404 Thackeray Hall or by appointment.

Description

This course and its prequel MATH3225 present fundamental principles and standard approaches used in mathematical finance. We will study continuous-time stochastic models with applications in various fields of mathematical finance including prcing and hedging financial instruments, risk management and financial decision making etc. We will cover Chapter 4 through Chapter 10 of volume 2 of Shreve's book (Stochastic Calculus for Finance). If time permits, we will also cover Chapter 11 (jump process) of Shreve's book.

Text

"Stochastic Calculus for Finance II: Continuous-Time Models" by Steven Shreve (Springer , ISBN-13: 978-1441923110 ISBN-10: 144192311X)

Supplementary Text

- "Arbitrage Theory in Continuous Time (3rd edition)" by Tomas Björk
  (Oxford University Press, ISBN-13: 978-0199574742 ISBN-10: 019957474X)
- "Options, Futures, and Other Derivatives (9th Edition)" by John C Hull
  (Pearson Education, ISBN-13: 978-0133456318 ISBN-10: 0133456315)
- "An Elementary Introduction to Mathematical Finance (3rd edition)" by Sheldon M. Ross
  (Cambridge University Press, ISBN-13: 978-0521787222 ISBN-10: 052178722X)
- "Financial Calculus: an introduction to derivative" by Martin Baxter and Andrew Rennie
  (Cambridge University Press, ISBN-13: 978-0521552899 ISBN-10: 0521552893)
- "The Concepts and Practice of Mathematical Finance (2nd edition)" by Mark S. Joshi
  (Cambridge University Press, ISBN-13: 978-0521514088 ISBN-10: 0521514088)

Grades

Homework assignments	30%
Take-home midterm exam	30%
Take-home final exam	40%