MAT4760 Spring 2009
Backward Stochastic Differential Equations and Their Applications

Tusheng Zhang

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Course Description

This course aims to give an introduction to the theory of backward stochastic differential equations (BSDEs) and its applications. We will establish the existence and uniqueness of solutions of BSDEs and coupled forward-backward stochastic differential equations. The applications to finance and partial differential equations will be discussed. The course is divided into three parts.

1. Backward stochastic differential equations.
2. Forward-backward stochastic differential equations.
3. Applications.

The main reference will be:

Jin Ma, Jiongmin Yong: Forward-Backward Stochastic Differential Equations and Their Applications. Springer 2000.