COURSE DETAIL

APPLIED STOCHASTIC DIFFERENTIAL EQUATIONS

Country
United Kingdom - Scotland

Host Institution
University of Edinburgh

Program(s)
Scottish Universities,University of Edinburgh

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
106

UCEAP Course Suffix

UCEAP Official Title
APPLIED STOCHASTIC DIFFERENTIAL EQUATIONS

UCEAP Transcript Title
STOCHASTIC DIFF EQU

UCEAP Quarter Units
4.00

UCEAP Semester Units
2.70

Course Description
Stochastic differential equations (SDEs) are used extensively in finance, industry, and in sciences. This course provides an introduction to SDEs that discusses the fundamental concepts and properties of SDEs and presents strategies for their exact, approximate, and numerical solution. The first part of the course focuses on theoretical concepts, including the definition of Brownian motion and stochastic integrals, and on analytical techniques for the solution of SDEs. The second part centers on numerical methods for both strong and weak approximations of solutions and introduces widely used numerical schemes. The last part of the course concentrates on identifying the long time properties of solutions of SDEs.

Language(s) of Instruction
English

Host Institution Course Number
MATH10053

Host Institution Course Title
APPLIED STOCHASTIC DIFFERENTIAL EQUATIONS

Host Institution Course Details

Host Institution Campus
Edinburgh

Host Institution Faculty

Host Institution Degree

Host Institution Department
Math

Course Last Reviewed

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